No. 29

Field Book

of

Willis Linn Jepson
Dept. of Botany, University
of California.

If lost- finder please return to W.L. Jepson, University of California, Berkeley and receive reward.

- 1913 -

Berkeley, 1914.

— On a trip up Mt. Tamalpais in Feb. with a student I lost my Field Book no. 28, the original of this book. The day was very rainy and I got wet quite to the skin as if I had been thrown in the bay. The rivulets on the mountain side were torrents — and in some way during the day's walk I lost the book. About 40 or 50 pages were written up. The essential matter (the field numbers), have been almost completely restored from the labels of the herbarium specimens. The matter recovered in this way is to be found in Field Book

Berkeley

no. 28 (pages 1-12, to end, the Yosemite Trip with the "phytojogs".) and in this book, no. 29, pages 11 to 35. The numbers all come out straight except that beyond 5719 I do not know whether numbers were used or not. So I leave a few numbers blank, up to 5730 to begin the Redwood City trip. At the time of making my Mohave trip I still felt that this book would turn up again in some way - that I might have brought it home and mislaid it, so I guessed at the matter of the numbers which had been used in the missing book and began with 5700. But

on returning I find the numbers as high as 5719 had been used and so I remember, the Sonoma and the Mohave Collection from no. 5800 in order to prevent any errors or confusion. This lengthy note is necessary lest sheets turn up with identical nos. + need adjustment - placing. I have never before kept permanently a field book and I find it very mischievous and troublesome - but now it is essentially straightened out - and the numbers are correctly placed.

[Book recovered - Sept. 1914]

- Brandegee, K. Her collections in El Dorado Co., on which were based various new species, were collected most probably in the neighborhood of Layne's Ranch. See label on Callitriche palustris.

— E. L. Greene. I have just completed a sketch of Greene's life in California for the Newman Hall Review. It was with great reluctance that I wrote it because I did not want to say anything that would hurt Greene were he living. I was under great obligations to him as a lad, but I could not follow his peculiar botany as I grew older. I regret that I did not keep a record of his unusual sayings and remarks. One was: "If you are going to write a flora you want only a few specimens", by which he meant that long series of specimens would unduly delay and hinder clear-cut results. That is you can make clearer species. I do not know that he would accept my interpretation of his remark, since it is not easy to speak for him nor ever was — Now my practice

is just the reverse. I want the longest series possible. My diagnoses rest on as many specimens as possible. I have out of view only specimens that are abnormal, meager or scrappy, or that present a problem that must frankly be left for the future. My work may not be as "final" as Greene's, but my object is rather to present such results as will help those who follow me and to accumulate as much material of value for future work as possible.

Another of his sayings was that two species might be distinct and yet no differences might appear to the eye between the specimens.

— Calif. Botanical Explorers. See summary of western explorations in Pac. R. Rep. vol. II. Also a map showing the "Rio Buenventura" extending to the Great Basin

— Erythronium montanum is called "Avalanche Lily" on Mt. Rainier. See Williams, "The Mountain that was God" which contains an article by J.B. Flett. Xerophyllum tenax is called Squaw Grass. The name "Deer Tongue" is used for an Erythronium also.

— Greene, E.L. "He was rector at Trinity Mission, Temescal. For some reason the door was locked on him and he and C.A. Ramm came in thru the window and took away an organ." — Mrs. D. O. Hunt, Dec. 1918

— "Prof. Volney Rattan was a very poor teacher. No one ever learned anything from Prof. Rattan. He may have been a good scientist but he was not a good teacher." — Mrs. D. O. Hunt, Dec. 1918.

— Greene, E.L. "I have seen him go in the coarsest clothes and coarsest shoes. He leaned towards denial, — towards chastening the flesh. I can see him dressed in the poorest garments, — in order to buy books on his subject." — Mrs. D. O. Hunt, Dec. 1918.

— Dr. Albert Kellogg was the Superintendent of the Sunday School, First Presbyterian Church, San Francisco, in early days. — Mrs. D. O. Hunt, Dec. 1918.

— Crouchité, Dr. H.M. See his special label as plant collector for Geol. Survey of Cal. on sheet of Eleocharis (Scirpus) pauciflora in U.C. Herb.

– Wright, W.G. Botanized in Mexico, headwaters Mazatlan River, Feb., 1889. See label on Fimbristylis miliacea.

– Tabardillo. Plant sent in from San Luis Obispo, 1320 Nipomo st., by A.C. Goodchild, called Tabardillo by Spanish-Californians. It is a Horkelia and may be H. puberula. He sends also another plant which is used like Tabardillo for fevers because mistaken for it. The material of both is so poor that it is not worth preserving. See Goodchild's letter, June 11, 1915.

– History of Cal. Botanical Exploration. First white men in lower Trinity and Klamath rivers region, in 1828, Smith Expedition. Diary kept by Harrison G. Rogers. – See file Cal. Bot. sub Smith Exped.

– Lightning, its Effect on wood. Jour. Wash. Acad. 9:146.

– Passes of the Sierra Nevada. See Pac. R. Rep. v. 11. Map of passes from Walker Pass to Tejon Pass.

Letters to W.L.J.

– "I shall never be able to compress into words the effect of the impact of your personality. But if I had left California without the contacts of the last seventeen months, I would have been robbed of the finest single gift of my alma mater. – I am but one who has felt that firm gentle touch on his shoulder." – H. M. Wheeler, Oct. 8, 1942.

– J. Francis Macbride, Sept. 24, 1944.

Jepson's Manual, Flora, Trees.

Letter Comment On:

- Reginald C. Robbins, Sept. 11, 1927, letter.
- James West, 745 - Fifth Ave., (in 1927) letter, San Rafael.
- E. E. Allen, Occidental College, Dec. 11, (in 1925), letter, Los Angeles.
- D. Dyar, N. Y. City in 1926, letter.
- See Personal Address Book: Manual, list of co-operators.
- C. M. Goethe, Sacramento, 17 May 1921.
- E. J. Wickson, Nov. 3, 1916, letter.
- Mary Haskell, Boston, 1913, letter.
- Mrs. L. D. Lawhead, Woodland, Apr. 9, 1909. Dec. 15,
- Letters of Doria Patchett and of Lena Pedington Carlton, in 1930.
- Letter of Mrs. G. P. Ballard, 12-7-30.
- Letters of Mrs. G. P. Ballard, 1930, re use of the Manual at Paso Robles.
- Santa Barbara Museum Leaflet, vol. 3, no. 12 Dec. 1930 (p. 7).
- Mrs. Ben Clary, Coachella, Apr. 5, 1931.
- Experiment Sta. Record, vol. 57, p. 116.
- W. W. Carruth, prizes Flora W. Mid. Cal. but is disappointed in its author, cf. vol. 7, p. 96, of this Field Book.
- Mrs. Allison Krames, 27 Nov. 1931.
- "I write to let you know that the love of those trees which showed in your every word to us was instilled in us your students, has grown, and we pass it on to our children and friends. No other form of knowledge has given me so much pleasure"
  - Margaret Hizar Beat, Aug. 4, 1932.
- As we journey through the Mediterranean Cork Oak forests we are talking of you and the joy you have brought into our lives with your books. Visited the Kabra home the other day. It was thrilling. - C. M. Goethe, 1932, in litt.
- Caroline Hunter, May 18, 1933, re. my article on the Monterey Cypress.
- U. C., Research Lectureship (Sci. 78: 597).
- James Wales, letter, Mar. 9, 1934.
- Invitation to be the guest of honor at the Forestry Club's Fellowship dinner, 1934. See letter of Fred Hector, Apr. 24, 1934.
- Letter of E. J. Wickson, July, 1914.
- Letters in "Missions File" no. 3, segregated as Trees Col. letters: mrs. V. D. Moody, W. Robinson, B. L. Robinson, Mrs. D. St. John, S. B. Parish, C. R. Johnson, R. J. Smith, Jos. Greenman, Alden Sampson, - all about 1909-1910. See Jepson Corr., vol. 35.
- Letter from Mrs. Allison Krames, Nov. 29, 1934.
- Letter from Mrs. Beatrice J. Kettlewell, Jepson Corr. vol. 23, p. 320
- Letter from Alla E. Clark, p. 3 et seq. Dec. 3, 1935. (In Jepson Correspond. vol. 37.).
- Cont. p. 16.

Dr. Johnson says that a man loves to review his life and that it is a profitable thing to do so. For myself I have been much astonished to find that in certain years long gone, various pieces of work were done, various experiences were had, various friendships enjoyed, and so on that I had quite forgotten or had grown dim in memory. I am therefore making a list of a few papers and articles that turn up, such as the very precious friendship with Greenman (J.M.) while I was a graduate student at Harvard. The opinions of others have a curious interest, sometimes too.

- 1. Letter to Dr. A. L. Grant, Feb. 6, 1931, re. Dr. Jesse Greenman.
- 2. List of writings in successive issues of the "President's Report" University of California.
- 3. Biography of W.L. Jepson in the Encyclopaedia Britannica, ed. 14, vol. 12, p. 1004.
- Biography in Who's Who in America, current issues.
- Biography in Who's Who Amongst American Authors. 1931.
- The High Priest of Flora. Touriz Topics, Los Angeles, Dec. 1928, vol. 20, p. 32. To me a fantastic floral sketch but enjoyed by many persons.
- The Jepson Family. A History and Genealogy of the Descendants of John Jepson of England and Boston, Mass. By N.W. Jepson, M.D.
- Univ. Cal. Journal of Agriculture. Dedicated to W.L. Jepson, with portrait. Vol. 4, no. 3. Nov. 1916.
- Bookplate of W.L. Jepson, in Univ. of Cal. Chronicle. Apr. 1924. vol. 26, opp. p. 152.
- Dedication of the Jepson Laurel. "San Francisco Water" published by Spring Valley Water Co., vol. 2, no. 3, p. 2 (July 1923).

14 w.h.j. - Extra - Mural Activities

- Talk at annual dinner Sierra Club. cf. letter to Dorris Pallet, Dec. 13, 1931.
- Address, Pacific Coast Convention of American Foresters. San Francisco, December, 1931.
- Dedication at Forest Hill Club, San Francisco. Dec. 19., 1932
- Counsel solicited from me by other institutions: see letter of H.M. Jennison, University of Tennessee, 2-28-34.
- Work as Councillor of the Redwoods League. See Redwoods League file.

Notes on activities of w.h.j. 15

cont. from p. 13.

- Faculty Research Lecture.
  Letter to Dr. T.D. Beckwith, Mar. 1934.
  Letter from Dr. H.M. Evans, Mar. 21, '34.
  Letter from Prof. Geo. J. Peirce, Mar. 22, '34.
  Letter from Prof. E.T. Whittaker, July 3, 1934. of University of Edinburgh.
- Sketch of activities contributed to Vienna "Men-of-Today". See Jepson Corr. vol. 35.
- Trip to Chicago to testify in behalf of the Western White Pine Lumbermen in a Federal court. See "California White Pine Hearings" in Jepson Corr. vol. 35.
- Sketch of life furnished (By request to) National Publishing Society, Mountain Lake Park, Md., Oct. 1930. See Jepson Corr. vol. 35, for dupl.
- List of Faculty Research Lectures. cf. Jepson Correspondence, vol. 49 (1944). But Faculty.

Cont. from p. 11.

- Dr. M. L. Fernald, Gray Herbarium, in litt. Oct. 1, 1936.
- Dr. Helen M. Gilkey, 1936, on receipt of a copy of vol. 2, Fl. Cal., in which she compares my botanical writing to great works of art: "they parallel a Millet painting or Tchaikowskys Fifth Symphony" See her letter dated Aug. 9, 1936.
- See letter from Jos. Grinnell, 1937 "The Flora of Cal. marks an era".
- "We keep the Bible on the mantle, but Jepson's Manual is always by my plate on the dining room table." — Ruby Van Deventer, Del Norte High Sch. *
- "Your manual has been one of my most constant companions and has added greatly to my enjoyment of life." — Anne Bancroft Graham, May 5, 1937, in litt.
- T. D. Beckwith, in litt. July 2, 1937.

* cf. F. B. 57:46

"Your letters are literature and always remind me of Ben Y. Harrison's comment on the text of your Silva, — that it reads like the King James Version of the Bible." Dr. H. M. Gilkey, in litt. Mar. 19, 1936.

- cf. account prepared for Burke's Landed Gentry of Great-Britian. Coronation Edition, 1937. See J. Bernard Burke in litt. 28 May, 1937.
- Geo. Neville Jones in litt. Feb. 19, 1937
- H. E. McMinn, in litt. 4-10-37.
- Nettie Fowley Parker, in litt. [2-18-38.] *
- Chessman, Mrs. Harvey R (Carol D.), 1614 Ridgeway Drive, Glendale, S. California. in litt. 3-23-38.
- Alma Amer Weigart in litt. 7-11-38.
- T. B. Davy, Oxford University, in litt. 5-9-36.

* "Even in New Mexico I found your Manual invaluable".

- "Your courses in Botany have added to my enjoyment of trees, the mountains and life in general to an extent undreamed of by you. Mark and Alice Emerson in litt. Dec. 28, 1938. 5940 Hiawatha Road, Oakland.
- cf. postcard from W. A. Dayton, 1-9-'39, and letter from M. Van Rensselaer, 12-31-'38.
- H. W. Peirson, letter of Feb. 7, 1939.
- My letter re. "Research Lecture" to T. D. Beckwith. Mar. 31, 1934, in Jepson Correspondence.
- A. L. Grant, Dec. 22, 1937 in Grant Correspondence.
- Robt. E. Burton, Jan. 6, 1941.
- William T. Wallace, Feb. 14, 1941.
- Helen M. Gilkey, Feb. 3, 1941.
- Mrs. Carolyn Hnish, June 5, 1941.
- C. M. Goethe, Sacramento. (Postcard 6-5-41 from Va.)
- Mrs. Jos. Clark Kleiss, June 11, 1941.
- Cornelia Pringle, 5-31-41.
- Alta Edwards Clark, Dec. 7, 1940. (in 1941 file)
- John Thomas Howell, June 1, 1942, on the Flora of California.
- Emanuel Fritz, July 8, 1942.
- Fred Kleiss, M. D., College of Dentistry, Univ. S. Cal., Aug. 10, 1942.
- Goddard, David, Aug. 11, 1942.
- James A. Kanakawa. Dec., 1940.

"The further we get from California the more we feel the lack of floras with satisfactory descriptions and workable keys and the more we appreciate the value of your Manual. It is almost provoking sometimes to find that it does not contain all the Tennessee genera!
Virginia Bailey, 11-28-38

- Your Manual is the most attractive and authoritative single flora in America if not in the world. — David D. Keck, July 30, 1942.
- William T. Wallace, May 3, 1942.
- Charles Prather, June 5, 1942.
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Miss Susie Mott of the Oakland Museum just called: She said the thing that pleased her most about the foreward in the Manual was this: Dr. Jepson said this was not the last word about plants, as we learn more about them we shall revise as opinions and correct our first statements; and this process is endless. That seemed to me so broad-minded. I often speak of it to people." — May 11, 1928.

Jepson's Manual.

The Manual is to me extremely short of what I should have liked. On account of the time-limit factor many unfortunate slips got by. It is to me astonishing how many persons about California who use it call it their bible! Cf. Men & Manners, vol. 15, p. 12. Cf. F. B. 57:46.

Flora of California

– Letter from Cornelia Pringle. See Jepson Corr. vol. 42, p. 144.

– Letter from Dr. Lincoln Constance, Jan. 15, 1943. "After studying the latest part of the Flora I felt very proud of it, of you, and of the part I had had the good fortune to take my doctorate under you".

Redwood City San Mateo Co.

Came down here last night as the guest of Mrs. E.R. Goodwin who* has a country place called "Redwood Farm".

* Mr. + Mrs. J.W. Goodwin.

No. 5730. Ranunculus Californicus Benth. "Green Buttercups" in hard adobe soil.

No. 5731. Limanthus ambiguus Gilia nattani Gray. Wooded hillslope. = G. ambigua Rattan. Open on

No. 5732. Fritillaria liliacea Lindl. Low foothills on open slope. Perianth almost pure white or a little dull white, the lanceolate spot at base deep green and glandular, not very sharply defined, running out along or coloring the veins

No. 5733. Phacelia divaricata Gray. With no. 5731.

No. 5734. Delphinium variegatum T.+G. Very beautiful on the grass slopes.

No. 5735. Layia gaillardioides (H.+A.) DC. With #5731.

No. 5736. Pseudadenium macrocarpum Nutt. Young carpels nearly glabrous, slender; leaf segments fairly large; flowers with bright yellow corolla, petals glabrous.

No. 5737. Pseudadenium dasycarpum T. + G. Young carpels broad, elliptic or soon circular, the body densely white-woolly; leaf-segments very fine, hirsutulous; flowers

appearing whitish on account of the densely white-hairy petals which are really pale yellow in color.

The spms. marked "a" and "b" seemed a little different in the field.

No. 5738.

— Peucedanum macrocarpum Nutt. collected by Mrs. E.* R. Goodwin in May, 1914, from marked locality where 5736 was collected. Carpels glabrous quite, elliptic-quadrangular; oil-tubes solitary in the intervals, 4 on the face, two of these appearing as a pair near centre. Leaves glabrous or nearly so. This no. corresponds to #5736

* Elena

No. 5739. Peucedanum dasycarpum T. & G. Collected by Mrs. E. R. Goodwin in May, 1914 from marked spot where #5737 was obtained. Carpels with short stiff hairs on back between and ribs. Wings nearly glabrous but showing minutely scattered puberulent under a lens. Oil-tubes 2 on the face, lateral; oil-tubes one in each dorsal interval, two in each lateral interval. Leaves puberulent. In cutting a number of carpels, the oil-tubes seem quite constant.

The specimens in flower numbered 5737 correspond to these fruiting spms.

Berkeley

Chas. B.

— Turrill, the Photographer and Michael of the Sierra Club were here today. Turrill knew Watkins the Photographer well. Watkins was the first man to make fine studies in California. He first photographed the Sierra trees. Went first to Yosemite in 1858, with eleven mules in his pack train to carry his outfit! He took infinite pains to secure detail by accurate focussing. Exposed 15 to 30 minutes and often early in the morning before sunrise in the glow which precedes the glare in a Sierra summer. Used wet plates and of the size of the prints which hang in the walls of the Botany Bldg! Watkins made

himself poor by his high devotion to ideals of photography. His plates were destroyed in the 1906 earthquake. He is still living, — in the Napa Asylum for the Insane as an inmate — all this acc. Turrill.

Michael who has been in the Sierra this year says that the alpine Columbine (Aquilegia pubescens) about Sardine Lake, Bloody Canon, occurred this year in pink, cream, yellow, and purple! and white. (Same as no. 4439). He also remarks the Rhus diversiloba in Hetch Hetchy and its absence in Yosemite

— Eastwood, Alice. was always very appreciative of sets of plants sent her by collectors. See copy of her letter to Mary Strong Clemens filed with Mrs. C's letter of Dec. 6, '18.

- Sisyrinchium delectatum Jepson. See M. Armstrong in litt. 5 July, 1914.
- Arenaria gregaria. Look into this sp. with ref. rigid branching, large calyx and very gland-hairs
- Bloomer, H.G. Ranunculus Bloomeri, a fine distinct species which will preserve his name in the region where he lived.

Species of wide & General Distrib.

- Eremocarpus setigerus
- Cf. list 37:198 b infra.

Effects of Cultivation on Native Species

- cf. Flora of Western Mid. Cal. p. 5.
- Hemizonia luzulaefolia in hay lands adapts itself to the conditions, or at least finds the conditions fortunate. Its seedlings have, in the grass lands, formed rosettes only at the time of the mowing. The blade passes almost harmlessly over the plants but removes all their competitors. Thus they flourish!
- Phacelia ciliata comes up in the wheat fields and seeds long before the harvest and grazing time which follows harvest. cf. no. 12, 211 in Field Book.
- Eschscholtzia californica, adapts itself to grain fields, in good land. Noted at Vacaville, July 11, 1927.
- Glycyrrhiza lepidota Pursh is spreading under cultivation in Napa Valley.
- Asclepias speciosa persists in orchards
- cf. Index to Field Books. There are notes on this subject elsewhere.
- Fritillaria agreatis Greene, in grain fields.

Cont. p. 94.

– Verbascum thapsus near Kennet.
– Hills terribly fire-scarred at this place, Kennet.

– Quercus kelloggii, Cercis occidentalis, Pinus sobiniana Ceanothus integerrimus (blue-fld) Vitis californica, Saxifraga peltata. – Not so far above Kennet.
– Al della is the white Arctostaphylos viscida Parry with its very white foliage and deep red smale berries, it looks, from the train-window exactly like the plumb of the Tule River region or the Yosemite region.
Here is also a green Arctostaphylos here (? patula) amongst the Pinus ponderosa

"Stage from Bartlett to Henry Hardin. Road branches off to Little Hot Spring Valley (Hardin's is near the place called Dana). The station for the cypress is about ten miles from Hardin on an old road to Hot Spring Valley." – Directions given me by Tillotson, deputy For. Supervisor, at Sisson for finding the trees of Cupressus bakeri. He tells me that he has collected this species and secured an identification from the Forest Office in Washington, namely Cupressus macnabiana, which is a natural one in using the old books.

McCloud, 3400 ft.
Siskiyou Co.

— No. 5740. Potentilla = Horkelia fusca Lindl.
Stamens 10, those opposite the sepals with deltoid fils.; those opposite petals with much shorter fils, simply rounded and broader than long, all of them converging a little in a circle so as to form an open corona over the style. Petals inversely deltoid — oblanceolate, retuse, unguiculate. Better say petals cuneate-broadly

No. 5741. Erigeron inornatus Gray var. inornatus
Composite. Stems forming a small circular clump, arising from a often heavy and rather deep-seated root-crown. Flowers yellow. Heads strictly cylindric. They become flattened under drying pressure and lose shape
— Purshia tridentata, 2 ft.-h.

The brush in the open forest here is:
1. Castanopsis sempervirens
2. Amelanchier alnifolia, 4 ft. h.
3. Arctostaphylos patula, 5-8 ft. h
4. Ceanothus cordulatus 4 to 6 ft. 2 or

A little Ceanothus velutinus with whitish under surface to leaf and sticky burnt brown-varnished upper surface.

No. 5742. Chenopodium botrys

No. 5743. Arctostaphylos patula. The leaves are wonderfully bright green and shining, having a fresh clean appearance. It reminds one of A. stanfordiana in these particulars

but is not erect like that species and the leaves are broad.

No. 5744. Gayophytum ramosissimum T. & G.
Petals 1 line long, orate, obtuse, white, a greenish area at very base. Style a little clavate-dilated beneath stigma which is green, capitate. The petals have a suggestion of quadrate

— Between Mcclond and Bartles the brush which has come up on the logged lands appears to be, from the train window, more than Arctostaphylos patula, less than half Ceanothus velutinus, with a sprinkling of Ceanothus ~~velutin~~ integerr.

— Purshia tridenta, common

— The country is full of south European laborers working in the woods for the lumber companies. I can not tell what nationality they are, — Slavs, Italians or Austrians, but probably the former. There were many faces that puzzled me completely.

Bartles to Dana, Upper Fall River Valley = 3400 ft.

– This lava bed country is densely covered with Yellow Pine (Pinus ponderosa), Pinus murrayana, Libocedrus decurrens, and some Pinus sabiniana.

No. 5745. Eriogonum nudum var. pubiflorum
Stems few, erect, very straightly erect with strict inflor. Perianth with fils. hairy at base. Upper Fall River Valley

– Douglas Spruce and Quercus Kelloggii badly touched by frost, – tips of branchlets ded.

No. 5746. Eriogonum vimineum
Sandy soil, lava bed
Upper Fall River Valley

No. 5747. Downingia elegans Gray
Cor. very pale blue with

Upper Fall River Valley.

yellow spots on lower part of the cupped palate, its lobes not diverging. Upper lip with recurving lanceolate lobes. Style + androecium curved downward a bit; the two subulate tips of the stigma push out and later become fluffy – hairy and coiled.
Upper Fall River Valley

No. 5748. Boisduvalia densiflora (Lindl.) S. Wats.
Moist mdws. with 5747

No. 5749. Alisma plantago
with 5748.

No. 5750. Orthocarpus lacerus

No. 5751. Cyperus aristatus Rottb.

No. 5752. Gilia minima Gray. = Navarretia

No. 5753. Eleocharis acicularis R. + S. Br.

No. 5754. Gilia leptalea = Dana
ssp. leptalea Greene.
Corolla mauve-red.
Moist mdw.

No. 5755. Polygonum kelloggii Greene ~~[illegible]~~
Moist mdw.

No. 5756. Eryngium articulatum Hook.
Wet mdws. Heads purple.

No. 5757. Mentha arvensis = var. villosa L. var. candensis Briq.
Cor. almost white, white with a bluish cast. Rootstocks fleshy-thickened. Wet mdw.

No. 5758. (Troximon) Agoseris grandiflora
Dry fields.

No. 5759. Chrysothamnus viscidiflorus (Hook.) Nutt.
Bushy plant 13 to 20 in. h. with woody base. Fls. yellow
Dry fields.

No. 5760. Euphorbia serpyllifolia Pers.
Sandy field.

No. 5761. Psilocarphus brevissimus Nutt.
Bed of former pool.

No. 5762. Silene pectinata Wats.
Petals deep red, notched or cleft half way or nearly, the base of blade with two lanceolate crests, entire or one or both notched. Very gummy-oily, staining paper noticeably.
— I get off the motor stage at Henry Hardin's, go on a mile thru the woods to Charley Hill's farm. Charley Hill says: "Oh, yes. I know that cypress. It's a way out on that lava road. It's a hell of a road. You'd better not go out on it. It is hotter than anything, there's no water and its terrible rough. It's just fearful

rough I'm telling you. Why it's an old unused road that goes away out to Little Hot Springs Valley. I'd advise you not to go. Take some Juniper and make that do. There's plenty of juniper around. Well, if you just get to have Cypress and Juniper you'll do; you go out on the road leading from my farm gate and bend around and in about a mile you come to a left-hand dim road, it's very dim, and after you get on that road you can't get off it. It's eight long miles, the longest miles and the roughest you ever saw in your life. Take

plenty water as there isn't a drop of water out on that road, except occasionally hidden in the lava but the stranger would never find it. Go ahead straight. You can't miss 'em".

- From Hills place I went S.E. to the place where Hall River comes out of the ground. The river is a good sized one from the start 50 to 80 feet wide, forty feet deep in places and reminding me more of an English river than anything which I have ever seen in California. It is bankfull with green banks, flows softly and there is beautiful boating upon it.

- Tomorrow morning early I leave on my hike to Cypresses Bakers.

Hills Ranch to Little Hot Springs Valley, Aug. 11, 1914

Dana, Upper Pall River Valley, Mt. Shasta Co.

3400 ft.

– Pall River is said by some people here to be the outlet of Lost River northwards which sinks. Jane told that out in the direction of to-morrow's camp one can hear the roar of waters beneath the lava. There are, too, water holes deep in the lava where water can be had and which is good drinking water – Jane now leaving the the lava beds from Hills Ranch to Little Hot Springs Valley. The lava is thinly but regularly forested with Pinus ponderosa, Libocedrus decurrens, there is a little scrub Quercus Kelloggii the brush is this: Arctostaphylos patula, Artemisia tridentata, Purshia tridentata, Ceanothus integerrimus and Prunus subcordata. There is a little Cercis occidentalis. Patches of Ceanothus prostratus, cover the ground in circular or irregular patches 2 to 15 feet in diameter. It hugs the ground most closely and is well-named. Rhus trilobata Nutt. occurs occasionally. Cercocarpus ledifolius emarginata occurs rather frequently – is a scrubby shrub with gray or somewhat glaucous foliage. No fruit. The leaves on the young shoots make me believe it is this species.

– Arctostaphylos patula Greene; 6 3/4 liner broad berry, depressed. Fleshy mealy not hard. Nutlet about 6. Keeled, a white line down the keel, or sometimes not on the keel but on each of the lateral angles. Nutlets smooth, sometimes 2 united.

Hills Farm to Little Hot Springs Val.
Upper Fall River Valley, nr. Shasta Co.

- Leanothus cuneatus Nutt.
- Adenostoma sparsifolia var serrata. = Adenostoma brewsii?
- Cercocarpus ledifolius -
Leaves whitish beneath when young, brittle, breaking when bent and also a little fleshy

No. 5763. Prunus emarginata Walp.
Lava fields below. Upper Fall River Valley & Little Hot Springs Valley

No. 5764. Cupressus bakeri Jepson.
Lava fields west of Little Hot Springs Valley. See p. 45.

No. 5765. Spiraea millefolium
Will 5763
= Chamaebatiaria millefolium Maxim.

No. 5766. Eriogonum vimineum
Upper Fall River Valley

- Cupressus bakeri Jepson. no. 5764.
A twig 4 lines in wood diameter is 17 years old. At the point of sectioning cones were borne, old cones just ready to weather off. This species must be slow-growing on this lava field. Foliage grayish green.
Bark on main trunk reddish brown, peeling off into thin scales 1/3 to 2/3 inches wide and twice as long.
Tree 40 ft. h., trunk 4 ft. 10 in. circ. at 1 ft. above ground. This tree shows signs of age and has built up about the base of its trunk a little mound of bark, the detritus of bark and twigs.
The tallest tree I see is 46 ft. h.
The associated species are: Pinus ponderosa, Cercocarpus ledifolius, Artemisia tridentata.

Hill's Farm to little Hot Spring (Upper Hall River Valley) nr. Shasta Co.

Pursha tridentata, Quercus Garryana, var., Arctostaphylos patula, Ceanothus cuneatus Nutt.

– Stumps-sprouting: Arctostaphylos patula, forms bulb-like root-crowns; Ceanothus velutinus Dougl.

– "You can't miss it." That always enters into road and trail directions and when Farmer Hill's got to that point I knew he had given the directions as explicitly as possible and under further questioning fell back on this line of defense.

Valley. Aug. 11, 1914. 3400 ft.

– Arctostaphylos mariposa "Stanislaus Forest", just north of Merced River, on Coulterville road near the station of ? Does not sprout after a fire!! Repeatedly examined it: seeds very rapidly. We have allowed settlers in the Sierra forest to put fire lanes around a brush area and burn it. Now it is taken for granted that most things sprout, but the manzanita doesn't! "There is an advantage in that the settlers thus help to reduce the fire menace" – Ralph Hoffman, at Sisson.

Cont. on p. 50.

– Patches of Cypress can be seen on spurs of Pinto Mt. from town of Isabella, below S fork Kern & Clear Creek. – Ralph Hoffman, Sisson.

Upper Fall River Valley
Mt. Shasta Co. 3400 ft.

No. 5767. Escholtzia californica Cham.

No. 5768. Sium cicutaefolium Gmel.

No. 5769. Iris missouriensis Nutt.

No. 5770 Arctostaphylos patula Greene.

No. 5771. Cirsium pastoris

No. 5772. Frasera albicaulis (griseb. in Hook.) Kuntz. ssp nitida (Benth. Post ~~nitida~~ ~~Benth~~
Lava field east of Upper Fall River Valley.

No. 5773. Cordylanthus tenuis Gray. = C. pilosus Gray, var. bolanderi Gray!

Aug. 11, 1914.

No. 5774. Rhamnus rubra Greene. obtusissima (Greene) Wolf

No. 5775. Arctostaphylos patula Greene.
Weighted by snow the depressed base of the branches root by adventitious rootlets.

No. 5776.
Composite, on the lava.

No. 5777. Quercus breweri.
I asked Hopping what he would call this and he said "Breweri."

No. 5778
Lichen on Cupressus bakeri

No 5779
Lichen on Cupressus bakeri

No. 5780
Lichen on Cupressus bakeri

Upper Hall River Valley
NE. Shasta Co. 3400 ft.

No. 5781. Polygala cornuta Kell.

No. 5782. Quercus breweri

No. 5783. Chrysopsis

- Arctostaphylos manzanita.
Cont. from p. 47. "I gather up the berries in my hand and they actually stick together. Of other bushes and the berries are not sticky at all. noticed on the Klamath River" — Ralph Hoffman

- Edw. Mainwaring, asst. Ranger, (pronounced Mannering). care Forest Service, North Fork, Cal. Knows more about localities for Carpenteria than any other ranger in California. [Was once Supervisor at Santa Barbara.]

On S. side San Joaquin on Italian Bar Trail to Shaver or José Basin, I myself saw Carpenteria. Also, recently, on N. side, but west of Italian Bar Trail, says Mainwaring. Found from N. side San Joaquin to N. side of Kings River on Big Creek just below the forks.

Mainwaring collects seed of it every year for the trade. All the seed used in the trade comes from him" — Ralph Hoffman, Sisson

No. 5784. Sidalcea oregana Gray var. spicata Jepson. Cor. pink. Staminal column pubescent or tomentulose.

No. 5785. Pycnanthemum californicum Torr. Cor. white with a few pink dots. Upper lip erect, minutely notched. Lower lip 3-lobed, the central lobe receiving in. Stamens 4, the free portion of the fils. glabrous. Cor. tube short-hairy within.

No. 5786. Juniperus occidentalis. Straight, rather tall, symmetrical trees. The tallest noted was at Hills Farm, Upper Fall River Valley, 45 ft. h., whence my spms. Shasta Co. 3400 ft.

No. 5787. Arctostaphylos patula Greene. This is the dominant thing on the cut-over lands about Sisson. Its small berries have scarcely

any pulp, but the berry is not "hard" any more than A. manzanita

No. 5788. Eriogonum nudum var. nudum Per. glabrous outside, a little pubescent inside on base of fils. Enough like Berkeley plants to be conspecific.

- Tragopogon porrifolius
- Schoenolirion album, 4 ft. h.

No. 5789. Schoenolirion album Dur. Ovary slightly 6-creased or -lobed. Stigma 3-lobed. Per. segments distinct, the stamens on their base. Ovary slightly stipitate

No. 5790 Sisymbrium altissimum L. Alma railway.

Siskiyou Co. **Sisson** 3600 ft.

No. 5791, Arctium ~~tomentosum Lam.~~ minus Bernh.

No. 5792. Carex lanuginosa Michx. Swamp at Sisson.

No. 5793, Madia bolanderi (Gray) Gray Swamp at Sisson.

No. 5794. Betula occidentalis Hook. 20 ft. h. Swamp at Sisson.

No. 5795. Rhus toxicodendron Nutt.

No. 5796. Veratrum californicum Durr.

No. 5797. Solidago

No. 5798. Cirsium breweri (Gray) 5 to 8 ft. h.

No. 5799. Rumex ~~occidentalis~~ fenestratus Greene Watson Swampy mdws

- At Sisson met Hopping and Stoner of the U.S. Forest Service. After Hopping had greeted and looked me over he remarked about the heat in the county in which I had been. Well, he said, "it is hard collecting under such conditions and you earn well all that you get in the way of specimens. It is severe and arduous". Stoner is the Forest Service topographic man and has had long connection with the U.S. Geol. Sur., Top. Div.

The remaining numbers of this trip (on account of lost book, see p. 1) will be found in vol. 31, p. 1 (after the numbers reserved for the Mohave Trip in vol. 30)

Dunsmuir 2200 ft.

-Cont. from vol. 31, p. 1. Arctostaphylos patula, no. 6163. Dunsmuir. In flat of river bench. The berries are very whitish just before turning but black when fully ripe. If the foliage is darkish or dirty it is due to proximity to railroad track, probably, since everything vegetable here becomes stained a little by soot. This is the thing sent out by L. E. Smith from Dunsmuir.

~~No.~~

~~Castle Crags Station. Stems radiating 1 to 2 feet.~~

~~No. Paletystima myrsinites~~

Aug. 14, 1914

-Cont. from vol 31, p. 2. Euranus, no. 6169. Tube of Cor. about twice as long as calyx. Cor.-lobes subequal. the lower lip a little longer than the upper lip. Cor. crimson-white, the palate dotted with light-purple dots. Palatal ridge furnished with short yellow hairs. - Dunsmuir

Dunsmuir, 2200 ft.
Siskiyou Co.

– Along Sacramento River from Dunsmuir to Castle Rock sta.;* Saxifraga peltata; Vitis californica; Libocedrus decurrens; Pinus ponderosa; Quercus Kelloggii; Chamaecyparis lawsoniana; Datisca glomerata, in fruit!; Alnus rhombifolia; Rhus divorsiloba; Aesculus californica; Quercus chrysolepis; Calycanthus occidentalis, Eremocarpus setigerus; Dendromecon rigidum; Eriodictyon glutinosum;

* Castle Rock sta. is in Shasta Co.

– Arctostaphylos viscida. There is not much of this about Delta. Seems too high still for it. One or two shrubs only seen near Dunsmuir.

Aug. 15. Here at Delta I find a shrub so white that it ought to have been named candida, or rather the name viscida were better candida! Beside this shrub another not so white, the difference seems marked as one studies them and yet only by their being side by side does one notice the difference in whiteness!! The berry is small and pink-terratcotta-red. See no. 6178.

Delta 1300 ft.

vol. 31, p. 2 no. 6174.

- Cont. from Ceanandra umbellata. The foliage is lightly glaucous on both the broad and narrow-leaf forms which grow side by side.

~~No. Arctostaphylos viscida 5 to 7 ft. h. See p. 59.~~

~~No. Arctostaphylos~~

vol. 31, p. 3.

Cont. from Styrax californica, no 6184. 2½ to 3½ ft. h., stems rather widely spreading. Common.

Cont. from vol. 31, p. 3. Saponaria officinalis, no. 6183. Petals 5, white, ½ inch long, cuneate-obovate, notched at apex, to 7 lines long. Styles 2, distinct. Common on sand-bars of river. Appendage of 2 subulate teeth.

vol. 31, p. 3.

- Cont. from Philadelphus, no. 6185. 7 ft. h. in rocky brushy slope not far dry above river bed.

- Quercus chrysolepis, shows its preference for vertical canon walls by clinging to the tilted strata of walls here at Delta and outclassing other species in such situations.

- Cont. from vol. 31, page 2. See Silene, no. 6175.

Flowers red-crimson. Petals 2-cleft, each lobe again cleft or toothed on one side or entire!!

Number of Species in various countries.

Antioch Sandhills and San Francisco; species in common.

– Lotus strigosus Greene.

- Mt. Shasta - Species present or absent.
- Salix petrophila

- Leidy, Jos., this naturalist said he could carry 20000 names in mind, but if new ones were to be acquired, some of the old ones must be forgotten. - Sci. 49:318.

- Greene, E.L. "He was a strong, fine character. He was very determined. You could not swerve him one line from his fixed object." - Mrs. D.O. Hunt, Dec. 1918.

- Plant Collecting. "I have had such a hard time with my specimens. That Cynoglossum grande has such a big root and its leaves turn black. And that Meier's Lettuce, it grows when I try to press it and it turns up and looks at you like a dog on which you are trying to operate. I had to kill it!" - T. W. McGee, student in Bot. 104, 1918.

- Gaultheria shallon. Sold as "California Wild Lemon" by Sanborn the Florist in Oakland. Spm. sent me bon det. By Mrs. Dehrer.

- Harford, W.G.W. Paper on sessile-eyed crustacea in Proc. Cal. Acad. 7:116.

Berkeley

– Coptis (venosa ?) laciniata Gray. First coll. in Cal. at Comptche by Miss C. M. Hoak, in 1895. again at North Fork of Albion, which is 5 mi. north. Grows with Smilacina, Trillium & Clintonia. Comptche is on the main river on what is called "Upper Albion". "It forms dense mats, or used to, at Prairie Camp, a mile or so from Comptche. I coll. it on Smith River in 1901, about ten miles inland." – C. M. Hoak.

Miss Hoak has just come in from a collecting trip to Mendocino County.

Vaccinium ovatum by Miss Hoak "Robins-egg-blue fruited shrub better flavored and ripens earlier. As children we used always to select the glaucous one. We called them Blue-berries and the non-glaucous ones Huckle-berries. No dif. in size, age, height, sun or shade situation, branches or foliage that I am able to detect. Black or purple one has a twang and harder or thicker skin. Blue one has a more mellow or sweeter flavor; has thinner skin."

Miss Hoak says she can distinguish the two berries by shutting her eyes. This was a stunt of the school-children on the Albion. Shade or sunshine, forest or cut-over ground makes no

difference, the glaucous blue, or black may be found. About Mendocino City, on the "barrens" there is quite a crop; on burnt-over ground the crop is heavy, for the brush needs severe pruning for the best results in berrying."

Miss Hoak was most enthusiastic in her story of these two forms of Vaccinium ovatum. She recalled with eagerness all her childhood experiences concerning them. She says the old stage-line from Ukiah to Mendocino City has been taken off, having been killed by the railway to Fort Bragg.

By Miss Hoak.

– Arctostaphylos tomentosa.

"Coast one, does not stump-sprout, as Mendocino coast the settlers cut it off a foot or two up and leave it for a year or two and then dig out the root or stump. Where "sprouting stump-sprouts" they know the manzanita district [= A. columbiana Piper!] Neither does A. mummularia on the pine barrens. [east of Ukiah]

At Hot Springs there is a species I call A. manzanita. It does not stump-sprout and has thousands of seedlings. Back of Purdy's on ridge towards Clear Lake I examined hundreds of stumpsprouts of the species growing there (=probably A. glandulosa).

Arctostaphylos stanfordiana I have never seen stump-sprout. I have seen it on

Bartlett Mt. 21- is not common. 21- has a peculiar red bark that distinguishes it. Its trim well-kept appearance attracts your attention. [= A. columbiana]

Arctostaphylos tomentosa grows in the Redwoods and all the way to the coast."

Miss Hoak speaks of Bartlett Mt. in the Mayacamas Range north of Red Mt. and westerly say from Blue Lakes. I did not know there was a Bartlett Mt. in that range and called her attention to the fact that Bartlett Springs is very far to the east- in the range east of Clear Lake. She persisted in her description. There may be a Bartlett Mt. in that range or she may have

mixed names. I feel sure there is a Bartlett Mt. near Bartlett Springs. If so there too should be recorded and distinguished to prevent errors in floristic distrib.

— Teratology. Dodecatheon see dried spm. by M. Grace Rowe. A case of cyclical lateral fusion of two flowers.

— Robt. P. Brandt, my former student comes in to talk conifers. He expressed surprise at the length of leaves on the cone bearing branches of Abies concolor from the Sierra as compared with A. grandis but I do not believe this a distinction. A. grandis has cones often on side of crown but this occurs on trees near the coast, windblown or in the

open where they have plenty of room to develop. In the Redwood forest crowded trees bear cones only in the top. I spoke of the great heavy carpet of cones beneath Douglas Fir. Brandt said he believed Redwood to be the dirtiest of all coast trees in the heavy litter which it shed. Brandt's experience seemed to lead him to think lightning killed practically all Pinaceae trees struck in mendocino and he was suprised at my experience in the Sierra. He says Redwood, however, is never killed by lightning, which is interesting in connection with a similar statement I have made about Sequoia gigantea.

– Eriodictyon parryi. I count 29 ovules in one ovary. Material from Shadequarter Mt. G.W. Purdy. See herb.

– The (T. & K.) Brandegee material forms a valuable supplement to our spms. for work on the Flora of California, but the locality data on the labels is nearly always unsatisfactory. Obscure and Localities are missing, or very local place names are used without tieing up to a county, mountain range or region. These general designations we commonly print nowadays on the label with the specific locality written in.

– Engelmann, Geo. Botanized in the Scott Mts., August, 1880. With Gargent. Cf. Proc. Am. Acad. 22:469, under Silene longistylis.

– Canby, Wm. M. On Mt. Shasta Sept. 7, 1897, in company with

Prof. Sargent & John Muir.
— Climate. Last night there was a shower which wet down the dust! The first of the season. We have had a windy summer straight thro here in Berkeley, cold foggy days, June. July. August, without a break save a rare day of sunshine. — Sept 7.
— Bridges, Thos. Silene bridgesii Robbs. Syn. Fl. + Bot. Cal. say Yosemite as if that were Bridges locality, but consult original publ. See p. 91 seq.
— Eremocarpus setigerus Bth.
"An abundant weed in this vicinity. Some of it was fed to a pen of Belgian hares and out of twenty-one little ones, nineteen died of some bowel trouble. Do you think it was the effect of the mother eating the weed.

would it have a bad effect on the reproducing organs of the male or female hare?" — Mrs. Joel McCornack, care C. S. Johnson, Chula Vista, California, Sept. 6, 1914.
— U.C. Forestry Club. Composed of undergraduates. Has been in active existence three years. At a meeting on Wednesday night Mr. Heinz, a student spoke and spoke with real knowledge and much humor on packing shoulder packs. He had an example of his pack present and demonstrated. Talked on camp-cooking and the making of fires, that roots should not be forgotten in wet weather being nearly dry, that manzanita burns better green than dry, etc, etc. It was very enjoyable.

Notes on Silene Flowers.

Silene platyota Wats.

Parish 3728, Seven Oaks, San B.-Mts. Petals very narrow, the blade deeply notched (cleft about half-way); auricles acutish; scales linear, rather long, i.e. about half as long as the undivided portion of the blade; capsule 3 lines long, elliptic-oblong. Lower portion of capsule brown, upper portion yellow, the two areas sharply defined

Calyx-lobes narrow, Cap. stiped

Silene platyota Wats

Hall & Chandler 458, Collins Mdw. Fresno Co. Similar to Parish 3728. Petals similar; scales lanceolate, perhaps a little longer; auricles narrow, rounded. Capsule similarly colored, stiped.

The Corolla in both nos. is much exserted and seems to stand very erect:

Calyx-lobes elliptic-ovate, scarious, with a lanceolate green spot in centre

- S. verecunda Wats.

S.F. 23/5/'95, Tidestrom. Blade broader, coarser than in above, with a disposition to have lateral lobes on the 2 main lobes of the petals; scales coarse, broad, quadrate, dentate. Ovary reddish brown with a distinct yellow creased cap (later, the teeth of the capsule) auricles rounded.

- S. bernardina Hall & Babcock 5142, Tulare Co. auricles prominent, lanceolate. Scales long, lacinate to or nearly to base, conspicuous. Blade deeply 2-cleft, the div-

gent lobes each 2-cleft halfway. ovary long-stiped, on a stipe nearly as long as itself. Stipe thickened below ovary. Calyx teeth oblong, acutish, scarious with a central lanceolate green midrib.

— Hall & Babcock, 5558, upper Kern Cañon at East Fork = essentially same as 5142 but lobes of petals nearly equal.

Jepson, 901, Kearsarge Mill, petals 2-cleft, the lobes again 2-cleft, the scales laciniate / auricles mostly obtuse; capsule stiped

— Silene.

S. montana. Jepson 4646 Yosemite Park.

Petal blades cut halfway into 4 lobes. Scales laciniate-fimbriate. Auricles strap, subacute or rounded.

— Blasdale, Tahoe July '97. Blade cut a little below middle into 4 linear lobes, the lobes 2-cleft at apex sometimes. Scales laciniate half-way. auricles obtuse.

— Silene occidentalis Wats.

Jepson 4685. Hackett Meadows Blade cut into 2 divergent-lanceolate lobes with a small lateral tooth on each side. Scales lanceolate, very long, entire. Auricles = broadening or dilation of the claw and very obtuse at apex.

This does not quite agree with occidentalis; the flowers are white (but this is not fundamental) and the blade is not equally 4-toothed but the shape of the blade is quite like that of Hall's 8709 Cisco, in which the lateral teeth are sometimes smaller. The shape of the calyx is an influence, being so very long and narrow. My plant is more strictly fanicu-

late than any of the plants in U.C. herb. labeled occidentalis.

– Silene platyota

Purpus 5309. Pah-ute Peak.

Petal blade 2-cleft half-way, scales lanceolate, rather short Auricles moderately prominent. subcentish.

– Silene dichotoma Ehrh. = S. racemosa Otth. Now first cd. in U.C. hb. Not any S. cucubalus (= S. inflata). Not any S. noctiflora. All the above cited by Greene in Fl. Fr. & Bay Reg. Bot.

– Taraxacum Dens-leonis. Mr. A.K.P. Harmon of Oakland desired a reminder of New England boyhood days and introduced the dandelion, where the pest of our present day gardens. – I. J. Richardson.

– Sequoia gigantea. After bark peeled from mother of Forest in Calaveras Grove the stump above uprooted, as if in defiance. – C.B. Bradley.

– Last night went to a com. meeting which is to arrange a botanical program for the A.A.A.S. at S.F. next year at the time of the Exposition. There were present Campbell and Peirce (chairman) from Stanford, Setchell myself from Berkeley, and D.T. MacDougall, director of the Carnegie Desert Laboratory.

MacDougall said, as answer to our surprise that Trelease had been left off the 25th anniversary program of the Missouri Botanical Garden: "Trelease for many years has not been in harmony with the Board of Trustees as a whole. He followed the lead of the President of the Board

an "octogenarian" whose views of the management of the Garden were antiquated. This man suddenly died and left Trelease without support in the Board. As clashes developed Trelease met the issue by sending in his resignation "to strengthen himself or strengthen this position with the Board" as he put it. The acceptance of the resignation was undoubtedly a great shock to him. Moore, who was his vice-director, said to Trelease: "Now, I am not dependent on this position. If there is something at issue here [fundamental to botanical science] I will cheerfully support you by resigning too."

Trelease replied to this generous offer [in an equally high-minded way]: "No, this is my quarrel. I do not desire to drag you into it." So Moore was made by the Board the Director to succeed Trelease. The Board has reflected upon itself terribly by making it a condition of the anniversary celebration that Trelease should not be invited to take part." [This information will travel all over the world and do a great deal to justify Trelease] W.H.J. The brackets inclose my own phrases which seem to me, however, to reflect the spirit of the situation. McDougall thinks Trelease has been in a backwater and has not done much for research. He

[Treleare] has, however, built up the best botanical library in America, i.e. the most extensive. It is very complete, especially on old things. He has spent $15,000 a year upon it. This sum sounds huge to the U.C. Dept. of Botany which has received $150 & 250 a year. this year reaching $318

- Calycanthus occidentalis sent in by Mrs. M. E. Behrmann, 933 Guerrero st. S.F. Says it is used as an Indian remedy. Specific case mentioned, injury to the eye.

- Pentstemon Kingii Wats.
  near Jackson Lake, Sierra Co., Aug. 24, 1876, E.L. Greene
  P. roezlii, " " June 5, '76, " "
- E.L. Greene in Sierra Co. ↑.

- Arctostaphylos nevadensis Patterson Mt.* 7000 ft. and above. Mt = 8000 ft., a little over in height. Abundant. — A.E. Wieslander.
- Cherry (P. emarg.) & Snowbrush (Ceanothus cordulatus), Red Fir comes up beneath this brush in the high region back of Ockenden. Red Fir comes up plentifully beneath Lodgepole, but no Lodgepole Reproduction in this spot. Photographs shown me by Wieslander ↑A.E.

* probably Fresno Co.

– A.E. Wieslander who has been for the summer in Kaiser Peak region with a Forest Service party says: Arctostaphylos patula layers, after fire sprouts arise from the rooting points, and the fact is this species spreads in circles in this way and not by seed.

Lower down "A. viscida" a white shrub with sticky fruit occurs. It does not sprout after fire nor after the axe. It does reproduce most admirably by seed.

A. patula does not form a root crown or broad structure as in A. glandulosa on Mt. Tamalpais.

– Orobanche comosa var. subuniflora Jepson.
Near Tahoe Tavern. Comm. Chro. Miss Rowena Beans.
Cor. dull white. Upper lip erect, 2-cleft nearly halfway with a narrow V-shaped sinus. Lower lip 3-parted, the lobes subulate, the sinus at base developed into tubular folds which run down inside of corolla. Calyx-lobes filiform-subulate, rather densely covered with gland-tipped very short hairs. Anthers woolly-pub., connivent in pairs below stigma. Stigma red. Corolla tube arching glabrous within and without. Fils. glabrous; also ovary & style.
Parasitic on Eriogonum sp. & perhaps a grass and a Juncus.
Record Sept. 21, 1914. See spm.

— Michener, E.E. Botanized zealously with Bioletti. Was a small hunchback. He had the bitter sarcastic humor of the hunchback but was a man of brilliant parts in college studies. He stood highest in his class but the faculty com. refused to give him the gold medal but made the award to Arthur Seymour. Of course this was not made known at the time, but Haskell told me about it long years afterward. Haskell* was complacently sure that the faculty attitude was a proper one.

— Gray, Asa. Made a bad break on Brewerina. How curiously it is tried to cover such things up. See Keller, Rumbl. 6: 96.

* M.W. Haskell, Prof. of Mathematics.

— L.H. Bailey, just returned from a flying trip to New Zealand and on his way back to Ithaca called this aft. at my lab. Was full of enthusiasm about the New Zealand flora, its high percentage of endemic species, where everything nearly that one sees is strange. He spoke of the Kauri and of the cultivated California conifers which are doing so well, especially Pinus radiata. —

— J.H. Williams of Seattle and late Tacoma called for a four-hour chat. He did the talking. He is getting out a book on Yosemite with 250 illus. He evidently desires to be accurate as a popular writer and wanted me to name the species in his illustrations. He is the editor of a new illustrated edition of Winthrop's

cont.
Canoe & Saddle. The illustrations are interesting as a whole. There is a good picture of W.H. Tolmie. He had a good deal to say about Geo. Gibbs who lived in the north for a time, contributed to Stevens's Pac. R.R. Rep., was Gov. an early member of the Cal. Acad. Sci., was really the founder of the U.S. Bur. of Ethnology by reason of the interest which he had developed in the Indians of Washington.

— Artemisia californica.

Teratology! See spms. by Mrs. Grant from Tamalpais. Teratology of stem. Fasciated. Cf. also her spms. of Adenostoma fasciculatum.

— Bridges, Thos. cont. from p. 74. In the Flora of California, I quote the type locality as "California".

— Beadleey, the early Calif. coll. of conifers, is noticed in Proc. Cal. Acad. 1:116, where there is a half-page of his observations on Lawson Cypress

— Ceanothus oreganus. Oreg. Tea Tree. Cf. Pac. Rural Press, 1:21.

— Dirca palustris. Trail out of Big Basin towards Pescadero, Clover Grade, 2/3 way out. 3 bushes — Mrs. Norman Kelley, 1912, July.

– Setchell is back from celebration of 25th annic. organiz. of Bd. Trustees Mo. Botanical Garden at St. Louis. Says the celebration was in a way remarkable for the fact that the late Director was not only not there but that his name was not mentioned or his work referred to in any way. It was like a pall over the whole celebration. The strangers would have supposed, for anything which he could have learned to the contrary, that Moore and the rest of the staff had been there for twenty-five years! It seems that there was an ineradicable difference of opinion between Trelease

and some members of the Board as to policy, the latter desiring that more be made of certain popular features. It was even proposed to divide the authority in the garden, give the scientific work to Trelease and put the growing of show things for the public in charge of some one else. Trelease had resigned in years past several times "to strengthen himself with the Board, his resignation being refused. But finally it was accepted, probably much to his surprise. It must mean that the feeling is very bitter that the Directors should never, during the whole celebration, mention the name of Trelease.

– Sir Joseph Hooker & Dr. Asa Gray visited together the Calaveras Big Trees on the occasion of Hooker's visit to Cal. in 1877. They coll. Ceanothus integerrimus there and C. parvifolius.

Cont. from p. 28.

Persistence of Native Plants in Cultivated Areas.

– See vol. 36, p. 148, F.B., seq.

– The last time I was at Little Oak I noticed once more the persistence of Sambucus glauca in the plowed grainfields. This was about Apr. 1, 1933. I also noted that Eschscholtzia fabacea has become very common along the orchard fence at Little Oak. Undoubtedly the seeds are distributed by the squirrels. – Little Oak, Vaca Valley.

– Climate.

The first marked rain fell 16-18th, .82 inch. Since then we have been having for the most part idyllic weather, beautiful sunny mild days.

– Brandegee, K. She had a certain cleverness in collecting, when "following up" Greene or Heller. She found Hosackia limosa. She made a spm. of Ceanothus integerrimus from Eldorado Co. which shows all stages of leaves from tri-nerved to pinni-nerved – all to disprove Greene's stand that the Santa Cruz Mts. type is distinct from the Sierra Nevadan form, the Santa Cruz type being the rare form. She does not write down all this nor even say from one bush; but knowing her trend so well, I know the meaning of the sheets as soon as I see them.

— Mr. Mrs. S.B. Parish are here for their first visit to Berkeley, arriving today, Thursday, Nov. 19. Hall brought them to my office. I asked Mrs. P. about the length of their stay. She said they had come to stay four weeks, if necessary six weeks, not having a definite date for return. Parish said: We have left the key of the house with a caretaker and told him to write us if the house burned down. If the house burns down, we not do not need to return that I see, added Mrs. P. Said Hall very cleverly: Let's send some one down with a match.

In the evening, at the Faculty Club new dining room for ladies, we had dinner —

Mr. Mrs. Parish, Prof. Mrs. Hall, Prof. Setchell, Prof Gardner and myself. Setchell was in excellent spirits and ran on in great good humor at length of his house-building on the Ocean Shore R.R. and more particularly of the characteristics of Mrs. Brandegee.

She goes about like an old coster-woman and students meeting her on the edge of the grounds not infrequently offer her car-fare out of charity. It seems that on one occasion while walking on a botanical trip, she stopped at a roadhouse, sat down on the platform outside and told the man to bring her some beer. The man brought the beer and returned the quarter in payment, saying:

"Keep it, my good woman, to help you along your way." When she offered her Oenothera paper to Setchell for publ., it contained a damnation, - giving the lie, - to Debries. It was with some difficulty she was persuaded to take this out. Gardner spoke up and described her hostile and vindictive attitude towards most everyone, - a sentiment which Setchell smoothed down, but really verified by the amusing anecdotes he told of her. Mrs. Hall said: I've been afraid she and Mrs. Hall would have difficulty.*

- Gibbons, Dr. W.P. Collected Anemone deltoidea at Coleston, Liskiyou Mts. as this spm. has recently come into Herb. U.C. I judge he had a little herbarium which has been donated.

[* Hall, a diplomat, spoke up instantly and said: "No danger of that."]

- Colorado River. Otto Wallace Peterson the engineer has just been in and says: The sandwaves of the river are the result of loading and unloading of the river current. In low water the river lays down the maximum of silt, in high water the river begins at the gulf and works backward and takes this extra silt out, that is the possible load is much greater than in low water. The amount of silt in suspension in the first foot of water is much less (1/10?) that at 5 to 10 feet down. It is very dangerous work in the river at high water and I used Indian boatmen who are very skillful. But the Indian will not move into the river when the sand-waves are running high. He will sit down and

wait until the phase passes. It is very dangerous to be thrown into the water with your clothing on as clothing rapidly fills up and if you get any of the water (full of sand) into your lungs it will kill you.

In running surveys I relocated old bearing trees. Cottonwood and willow are no good as bearing trees as they rot out quickly [and are short-lived] The mesquite makes a fine bearing tree. I cut into many of the trees on which records were made in the fifties and found the record perfectly clear. [The mesquite is long-lived and has a dense fine-grained wood. Peterson was much impressed by the tree in a general way,

for he said: It is a fine tree!]. The record is made for convenience at about the height of 3 ft. Sometimes we had to dig to uncover the record as the river bench had filled in floods for 2 or 3 feet or even 4 feet.

— Modoc County. Peterson is now working on the Goose Lake project for the government. He says: The lava plains are often covered with adobe to a depth of 5 or 6 feet, the result of disintegration of lava. But why should the fine soil be on top and the bottom layer of rough rock on top? [I called his attention to the thin layer of gravel laying on pure silt on desert mesas and that apparently it was rain sorting or water sorting.]

Fall River does not drop more than 1 foot in ten miles. This fact is due to faults, the drainage being opposite to the general flow in the region. The water backs up or accumulates in the great lava reservoirs and flows steadily over the lip of the fault on its outward course with very little variation during the year. [I did not understand his explanation very well but going over the country may make it clear.]

Vegetation areas and soil

Peterson is much impressed by the native vegetation as an index to the soil. He has been using this as a preliminary way of making a soil survey in Mexico, the vegetation of which is so different from the rest of the state. Along the Colorado River at Yuma the soil survey map is really a map of the Cottonwood, Arrow-weed and Mesquite areas, etc., etc. – Nov. 23,

– Dr. H.W. Harkness. At last night's Botanical seminary Miss Helen Gilkey read a paper on Hypogaeous Fungi in California in relation to Dr. Harkness's work. His type coll. was left with the rest of his estate to his nephew who looked about, on his uncle's death, for a buyer, finally persuading Mrs. Stanford to buy it. It would naturally have

been supposed, Harkness having been President of the California Academy of Sciences, that the Academy would have received the collection. But Harkness went in as President for 5 (?) years and then was acted by a movement which asked for and received support from professors of the University. So Harkness felt very bitter at being turned out of the Presidency. He considered giving his collection to Stanford, to the Smithsonian and to the University of California, but he felt prejudiced against the latter on account of the fight for the Presidency when he lost out, and he took

no action in changing his will made twenty years before. He was positive about one thing, — that the coll. should not go to the Academy. Miss Gilkey has been looking over the type coll. at Stanford and finds it unsatisfactory on account of lack of definite records accompanying the specimens. It seems that Harkness published the same species in 3 or 4 different genera, one of them being new (his own) and without def. ref. to the fact that he had done this, or at least not always. Miss Gilkey says there is a good deal of similar mixing. In other

wards Harkness' methods were not modern. When he proposed to publish in the Acad's Proc. many people were strongly opposed. But Setchell, while recognizing the objections, favored publ. on condition that illustrations were made and show measurements. On Setchell's suggestion Eisen was engaged to make the illustrations. Eisen did more, doing sectioning and writing certain descriptions of new species. Apparently some of the confusion was due to the fact that Eisen did a good deal of the work and without being informed by Harkness of what had gone on before. Harkness came to see

Setchell when the latter arrived in Berkeley; H. Harkness came dressed in a Prince Albert suit, wearing a silk "stove-pipe" hat and kid gloves. With his abundance of white hair and aristocratic appearance he was a striking figure.

On account of the "feeling" in the Academy between the two factions extreme attitudes were assumed. Harkness told Setchell that he must not visit Dr. Behr who had an office in the Acad. building where he worked with his butterflies. Setchell very properly replied that he had no knowledge of the partisan troubles in the Acad., that Dr. Behr was his friend and that he must have the privi-

ilege of going to call upon him. That he hoped it would make no difference to Dr. Harkness and that they ought to be friends just the same. Harkness evidently accepted this arrangement for he did not refer to the matter again. — Nov. 23, 1914.

— Anemone drummondii. I am not able to distinguish Cal. spms. like Heller 7099, Castle Peak, from D. D. Allen's 250, Goat Mts., Wash., det. as A. multifida by Gray Herb. There are no precise differentials in any of the books; while Ulbrich Engler. Jahrb. 37, 203 et seq. gives no sharp diagnoses and no tabulations of species on specific keys. These species are generally accepted and probably ampler material would show their values.

— Parish, S.B. Talked last night before the Botanical Seminary, discussing a cross-section of the Colorado Desert from San Gorgonio Pass to the Colorado River. He indicated each successive "zone" (formation) and gave it a name such as Yucca-Opuntia, Larrea, Dune, etc. He described the sandblast in the San Gorgonio Pass, which picks up the sand laid down by Whitewater and takes it toward the desert, wearing rock surfaces into curious carvings, etching down telegraph poles until they have to be replaced (!) and

making life uncomfortable for the traveler who is caught in a high wind in the pass. Curiously, delicate Oenotheras Hasseanas and similar species are not injured by the blast. Setchell pointed out that in using an artificial sand blast when etching a hard surface that when the operator desired to protect a particular spot he placed upon it, not some hard substance, but a bit of tissue paper or a handkerchief! which is quite sufficient for the time being anyway. Parish talked of the various factors in influencing the vegetation. As the Colorado Desert is a level plain the important factors of rainfall, temperature

and insolation are the same and may be neglected in working out the causes of the local formations. Soil, he regards, as important. Local water due to springs or underground seepage or washes from the mountains are important. Three species of Atriplex showing interesting relations to water supply:

1. Atriplex lentiformis, found in the moistest places, with largest leaves.
2. Atriplex polycarpa, 6 ft. H., found in moist ground, with smaller leaves.
3. Atriplex canescens, found in drier ground, smallest + grayest leaves, but which at a later period develops broad fruit wings which serve the purposes of photosynthesis.

He referred especially to Spirostachys occidentalis which is found in the blackest alkali.

Incidentally he referred to San Jacinto Peak as being the furthest south peak in North America which carried arctic species, namely Ranunculus eschscholtzii and Oxytropis digyna and perhaps one other. [I neglected to offer the suggestion that perhaps Stellaria borealis, found on Mt. San Gorgonio or near it, may be on San Jacinto]. At this point arctic zone plants come nearer lower Sonoran zone than at any other point, for San Jacinto is so vertical on the east declivity that lower sonoran zone plants occur beneath the eastern face.

— Heleromeles arbutifolia. Market-supply of berries was said, at one time to have come from Tuolumne Co. or that region in the Sierra foothills. Mrs. Grant told me the shippers received $60 per ton crated and these were sold for $80 per ton to the retailers. Little or none is shipped now because the Italians ripped the bushes very badly in harvesting and otherwise abused the bushes. Also formerly the Italians gathered from land which is now in Natl Forest and their gathering there would not now be permitted, except under permit. The people were paid very little for their berries; Mrs. Grant says the grants were offered

$10 ~ for their whole crop! When Mrs. Grant tried to ship direct she found the trade in the hands of an Italian trust. A retailer told Mrs. G. that if he bought from her, the trust would not supply him when in need. Three carloads were shipped east to New York from Jamestown in refrigerator cars and sold for $200 ~ per car. (Mrs. Grant's figures do not seem very accurate. Maybe the profit was $200 ~ per car.]

— Dec. 3, 1914

— Cal. Botanical Society. - A dinner was given in honor of Mr. & Mrs. S.B. Parish. about 80 present. At Hotel Carlton. Everyone seemed to be in

excellent spirits and very happy. The tables were decorated in Christmas berries. I remarked the commercial scale on which Christmas Berry was now handled to Mrs. Parish and he replied in regard to Atriplex hymenelytra. He has been told that a car-load a year goes into Los Angeles. It has a very striking appearance and its foliage is very pleasing. It keeps well a long time. While it is fairly common in some portions of the Mohave desert I should not have supposed it was possible to get a car-load in any one place. It would seem to me in danger of extermination, a sentiment of fear in which Mr. Parish joined.

– Ceanothus spp. Grinnell has been at work in Yosemite and is just out. He speaks of Panoche Peak on the Wawona road from Yosemite, says it sticks out towards the South Fork Merced and that it has Ceanothus divergifolius on it in abundance, covering several hundred acres. I have found it widely scattered in the Sierras but never abundant. Grinnell made a point of the association of four Ceanothus within a limited area: Ceanothus integerrimus, parvifolius, cordulatus and prostratus. This was on the Wawona road within the space of 400 yards as I remember

he said – Dec. 14, 1914.

– Robinson, C.B., who worked in the Philippines as a botanist, came back with N.Y. Bot. Gard. + did Vaccinium for them, then ret. to the Philippines and was killed recently by the natives, was queer or "funny" to people, says Holman, R.H., asst in Bot., who knew him in the islands. H. thinks he may have been unlucky in love, certainly he was embittered. He hated and despised a brown man or black man. Was from New Brunswick. – Dec. 16, 1914.

– Heteromeles arbutifolia. Mr. Parish says he never saw so large bushes in S. Cal. as occur on the University grounds, – [but there here in Berkeley are rather small – W.L.J.] for the north.

– Ralph Hopkins says. –
Pinus jeffreyi is attacked by Dendroctonus jeffreyi; Pinus ponderosa is attacked by Dendroctonus ; this latter " never goes on Pinus jeffreyi altho Dendroctonus jeffreyi sometimes goes onto pichey Pinus ponderosa. The engravings of the two are very different.

Ranunculus californicus in the Kaweah district has 5 and sometimes 6 petals. I never saw a 10–15 petaled buttercup in that region!

Healthy forests are attacked by insects. Pine tops supposed to be killed by lightning, mostly insects! The Sequoia gigantea's tops are lightning

killed I should say.

Pinus murrayana beetle same as Pinus contorta beetle, that is the beetle of the mountains is also along the coast but only on Pinus contorta, not on Pinus muricata or Pinus radiata!

– Calandrinia caulescens var. menziesii. So many people asked for a "common name" for this that I determined to coin one, I told my sister. When we lived at Vacaville, the hills orchards and vineyards were full of it in a good spring. It came early, was conspicuous and yet the children or people had no name for it. Gardens were little developed

them and I remember the little girls coming to school in their white aprons, holding before them tight heavy bunches of these red flowers. And so came "Red Maids", which has spread into the Californian vulgate thro my invention. Later on I learned that these flowers were, at Vacaville, called "Kisses". My sister remarked the appropriateness of this name. The flowers are very ephemeral, lasting but for a day, never coming into flower again. Rather transitory or passing, like kisses, — not lasting, a moment and they are gone, said my sister Josie. C. P. 145.

— Delphinium hesperium Gray Parish. 3781, Bear Valley. Thus form equal D. scaposum Greene acc. Greene. Greene says of this: "no species of the genus is further removed from D. hesperium than this". — Erythea, 4:65. How could Greene make a statement of this sort? Whatever it is, it is certainly vastly nearer D. hesperium than species of the Consolida or other sections. And the plant is either D. hesperium or D. parishii or D. recurvatum ^ I verily believe; so think others.

— Leanothus cuneatus - Cream - yellow flowers at Columbia says Mrs. Grant.

— Arctostaphylos manzanita, very erect, A. manipossa, spreading — Mrs. Grant, Columbia.

— Leanothus cuneatus, referred

to 5 lines above, does not stump-sprout under fire in Tuolumne Co., in clearing land. Very noticeable. Even when cut off, leaving a stump 6 inches high, it does not sprout but simply decays.
Mrs. A. L. Grant, 4 Jan. 1915.

— went today to the Academy election. Met the new Museum director, Barton W. Evermann; Silliman, a bird man, a young fellow, from Castroville. Prof. Jenkins of Stanford was there. Saw Miss Eastwood, first time in a year. She went to the Yukon this summer on behalf of Sargent I judge from her remarks. Was there from Apr. to Aug. She had the work in the herbarium at the other end of the room going full blast up to 6 o'clock,

which must have impressed the people who came in for election day. Her hair has turned very white.

— Delphinium in California. The genus has proved very troublesome in working up for the Flora of California. I have worked on it for many years but my original diagnoses were scratched out of all semblance to the original form (1896-1901). This is no point of constant difference or any difference at all easily set down as between D. hesperium and parryi. Indeed if one takes Tracy's 2755 Buck Rct., Humboldt, and put it along S. California parryi it is an exact match and needs only

to be labled from S. Cal. to be written up as that sp. Geographically, in a broad way, the two are different and in certain broad phases, such as leaf-lobation and length of pedicels. I do not throw the two together at present because their respective vars. would make too many incongruous elements. D. recurvatum I have zealously studied in the hope of separating it, but I cannot find even varietal diffs. of any moment.

D. menziesii I cannot well distinguish from D. pauciflorum.

The coast form of D. parryi is larger-flowered and I am naming it as a variety. Parish says they used to call it D. variegatum in S. Calif. D. hansenii is clearly distinguishable from D. hesperium. D. variegatum I set off chiefly by its hirsute petioles. D. palens is probably not even a variety. D. Andersonii probably comes too near D. mohavense Parish (= D. coelestinum Rydb.) but apparently they are distinguished by their leaves. The latter is the only delphinium in the Mohave desert, of a very light shy blue which is dif. from the color of D. andersonii and just the same, I think, as the color of D. parishii with which I cheerfully unite it. D. californicum, trollifolium and glaucum are easy, as also the red-fld ones. — over —

Cont.-

The very light blue of the Mohave Desert Delphinium is constant and distinctive. This particular shade does not appear in species which like D. variegatum and Hesperium run into a great variety of shades. I am now satisfied that the Mohave Desert is the same thing as D. parishii. The significant flower color is the same, and they are quite alike in habit and glabrosity. Also alike in the relatively long petals, but this character I do not value especially. — Jan. 21, 1915.

- I took Mr. & Mrs. S.B. Parish to hear Hamlet, Sir Johnston Forbes-Robertson in the title role. We all enjoyed it very much, going to the Hof-Brau for dinner afterwards. Parish remarked my being a pupil of Greene in such a way as to draw from me an expression of my great regret that it had not been my privilege to keep up correspondence with him. Greene has many fine sides; he has an interesting and forceful personality; he knows more about certain sides of botany, the historic side of older botany than any one else in America; being this only student who has gone on I feel rather that it was my due to have

had the privilege of any former professor in these respects. The difficulty was this: Greene demands conformity. To be his friend you must join with in his peculiar nomenclatorial views. Who is not for him is against him. — Whereupon Parish remarked that Greene had brought the same pressure to bear upon him; Greene was willing to be friendly but Parish must conform.

— Mackenzie, Kenneth, a lawyer of Jersey City, affiliated botanically with the New York Botanical Garden people is a good and careful student of Carex says Fernald and says Hall.

— Ceanothus cordulatus and integerrimus, Amelanchier alnifolia, these furnish browse for cattle and horses in the high mts of Sierra Co. Ceanothus prostratus is not touched by sheep even, but they like the young shoots of Symphoricarpos rotundifolius — L. S. Smith.

— Scalione, Charles Caesar, student in Chem., Senior, says — "I have been working on [Ceanothus velutinus] and find that the leaves have 17 % tannin. The wax we are now working and it contains 71(?) per cent fat- in the kernel, a large amount. native I want to work on a shrub with a bitter principle". I start him on Garrya (Oakland Hills).

– Mr. & Mrs. S.B. Parish gave a dinner last night on the eve of their departure from Berkeley. They had Prof. & Mrs. E.B. Babcock, Miss Eastwood, Miss Harriet Walker, Prof. & Mrs. H.M. Hall, Professor Setchell & myself. At Hotel Charleton. It was a very pleasant occasion. Miss Eastwood recounted her experiences at Dawson, Yukon – July this year. She had a subsidy from Sargent, $1000. of which she used $700. Dawson will be dead in five or ten years when the placer gold is exhausted. In summer the individual miner cannot work because the water all sinks in the tundra; in the winter it is frozen; so there

is only about a month at the beginning and end of each season when the individual placer miner can work. The Guggenheims have brought in water sixty miles by flume and work two shifts in the long summer.

– Dr. Herbert M. Evans, one of my students, formerly a student assistant in my laboratory, who has made a name for himself at Johns Hopkins in anatomy, visited me last Friday. He is a professor at Johns Hopkins.

— Wanted to run to call on Ernest H. Wilson, the botanical explorer of China, who is now on his way back to the Arnold Arboretum from Japan. We had a fine time for an hour. He says he found Cryptomeria Japonica wild in 3 places in Japan, truly wild forests. It is widely cultivated in Japan, especially in temple grounds. Also cult. in China. Sargent did not see it wild on his visit to Japan, so the wild forests are not easily seen unless you go to them. I saw trees 40 ft. circ. and other trees 140 ft. high.

The Pseudotsuga of Japan is a true Pseudotsuga. There is no doubt about it. It has that long conical bud which

is so characteristic of the genus. There is a second species in Formosa.

The two species of Torreya T. nucifera Siebold & Zuccarini of Japan and T. grandis Fortune of China can be distinguished by the color character of the branchlets, the former red-brown bark, the latter yellowish-brown. The same dif. exists between the Cal. Torreyea and the Florida species. Asa Gray, you know, pointed out the relationships of the flora of the E. U.S. to central China. Central China has a Sassafras, a Tulip, a Kentucky Coffee-Tree! But the Japan plants, we now know, are more like the California flora. The Cal. Torreya is nearer the Japan

one; there is Cryptomeria allied to the Sequoia. There is Pseudotsuga.

The branchlets of Cryptomeria fall and make a litter on the ground. [I called attention to the habits of Sequoia sempervirens in this particular and of S. gigantea.]

I am satisfied Ginkgo does not occur wild. I have investigated various reports and found them misdeterminations usually. Gingko an old trees has aerial roots which extend down from the forks of the trunk or from the branches, thick stout structures which do not reach the ground. They are found only on old trees, rarely in China, commonly

in Japan.

I photographed the Ginkgo tree in the Botanic Garden at Tokio which worked on in the matter of motile antherozoids. Also the Cycad 130 ft. h.) in the Botanic Garden of the Agricultural College at

I found that Meyer's work on the conifers of Japan was very bad. He made species on very slight diffs., especially diffs. in cone color (purple violet or green) in Abies species. I finally found a tree which had cones with both colors. Also Larix species showing like vars.

The Island of Yakashima

has a most wonderful Cryptogamic (ferns) vegetation. Ferns of all kinds, large ferns and filmy (Hymenophyllaceae) ferns."

-McAlee, W. L., Asst. Biologist, U.S. Biol. Survy, here today. Says Heteromeles arbutifolia is one of the most important of Survy foods for Col. birds and the most important of all winter foods. Rhamnus Col. also used.

Says Tidestrom is writing a Flora of Utah. That Bartlett (H. H.) has a hobby for Carex on the side and does well by them. That Mackenzie is a cracker-jack at Carex and that his key in Britton's Man. is the best he ever used. - Jan. 26, '13

- Hu, H. H., 1 my Chinese student in Bot. 104 says: "In my part of China bamboos grow 20 ft. h. and 8 inches diam. Cut into sections and split. The older people use them as tiles on the houses. Bamboo furnishes material for mats, clothing, implements, timber, etc. When a tree starts to flower the grove is promptly fertilized to promote vegetative activity. Otherwise the whole grove would die."

- Stump-sprouts. Arctostaphylos glandulosa. R. P. Brandt says: "This species [at or near Pt. Arena] forms swellings on its roots at the surface of the ground even when not fire-injured. I have

seen Redwood seedlings form walnut-like swellings at the top of the root, just below the ground, with rootlets, evidently getting ready for trouble." Black Oak (Quercus Californica) makes remarkable swollen tap roots, even when the stem growth is so slight that one imagines he could pull up the plantlet with his hand most easily. — W.L.J.

— Jared, L. Collectas in Marley Co., now dead. Cf. Pencedanum Jaredii + Navarretia jaredi Eastw. in Zoe 5:1 88, 89.

— Gnaphalium microcephalum? Fasciation. Sent from Los Angeles by Ernest Braunton One ribbon (wch wide at

base and gradually increasing upwards to 2 1/2 inches! The other plant with a ribbon 3 1/2 in. wide at base, broadening upwards and split half-way up into 2 forks, 2 1/2 + 1 3/4 in. wide respectively. This ribbon is 11 in. long.

— Mr. Jo. T. Ruddock, says. — Mt. Kenoti is a volcanic mt. with one sheer face. The mt. shows no erosion, no surface streaks. All water which falls on it goes down through the porous igneous rock. The fine layer of grit on top makes a sort of blanket which retains the moisture for one can always find moisture by digging down.

There are no springs on the mountain! The potash in the soil makes things grow wonderfully. I am trying to devise a scheme for extracting potassium! The top of the mountain has the finest and largest Quercus chrysolepis I ever saw! The brush on the mt. is very dense. The manzanita is the largest I ever noticed.

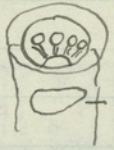
I have planted Redwood near Bakersfield and it is growing wonderfully. Shows no effect of wind-action. The grove of Bamboo near Bakersfield is 70 feet high and ten inches diam. at base. The stalks grow very rapidly at first; 26 in.

in 24 hours; one can actually see the stem grow at this early stage. You can observe the heavy broad scales curl as the stem moves up.

Aristolochia californica at Belvedere has two flowerings in a season. The first fls. come before the leaves and finally set fruit. The second season of flowering comes later and the flowers are hidden by the leaves. The caterpillars eat off the leaves at the second flowering time and the flowers never mature fruit.

— Corallorhiza bigelovii. Column with an anther on the very summit, a sort of hemisphere, membranous. The slips away and the four membrane

pollen-balls are seen attached in a cluster to a sort of broad thin foot,



diagramatically something like the sketch. If the foot swings over and down it deposits the pollen masses on the stigmatic cavity. This act is presumably done by an insect. —

Material from Mrs. J.B. Smith, Hillsboro, San Mateo Co., Mar. 15, 1915.

— Pinus Lambertiana. V.H. Brown, my former student who is now working with the S.F. Hetch-Hetchy party, says. "Sugar Pine, fine trees at or near Groveland, some

Yellow Pine with them (at 600 ft. or maybe 1000 ft." — But this is very low! Perhaps lowest alt. for Sugar Pine in central or southern Sierras. This is just the region too where the Digger Pine goes above its usual alt. to the well-known area above Hetch-Hetchy valley. Brown thinks the Chaparral very low at Groveland and the chaparral very high above Hetch-Hetchy.

Brown thinks Poison Oak is represented by two species, the erect (which chops readily) and the climbing (which, when struck by the axe, causes the axe to rebound!!).

— Mar. 25, 1915.

— B. C. Goldsmith of the Nor. National Forest says that the Happy Camp Range marks a vegetative boundary, that Sugar Pine and Incense Cedar + Black Oak do not occur east a very sparingly. Sugar Pine and Incense Cedar do not occur in the Warner Mts. which form a rimaline Sierra, abrupt on the East, gradual on the West. Juniper is dense all over the region east + about Alturas.

Prunus oregana, very distinct! Its leaf pubescence is very different! Its fruit has a thin flesh and is

quite inedible, like an almond. — Mar. 31.

— Kiss-me-Quick = Calandrinia menziesii var. caulescens. Material from Miss Ruth Johnson, Bot. 104 who had it sent from College City. See p. 119.

— Salvia spathacea. Teratology. Yellow corolla. H. H. Tracy, Fullerton, Apr. 6, 1915.

— I was a pall bearer at the funeral of Valney Rattan here in Berkeley, from his home on Euclid Ave. Professor C.W. Childs, long President of the State Normal School, was another of the pall-bearers, as was Principal Fisher of the new Oakland Technical High School. Childs was long an intimate of Rattan when Rattan came to Cal-

ifornia across the plains in 1859 or thereabouts he settled at Haywtown, later Placerville. There came to this place, about 1861, another young man, Childs, who wanted to teach school. Rattan was designated by the board of education to give him an examination which he did orally. The storekeeper in the place examined Childs on arithmetic. When all was finished Rattan took down a sheet of paper of foolscap size and wrote on it a statement that Childs was qualified to teach in the California schools. Rattan afterwards became teacher of natural sciences in the Girls High School in San Francisco, later going to the State Normal at San

Jose and to the San Jose High School. Rattan was a spiritual nature and deeply loved plants. It was not in him to exploit himself or advertise himself by means of his subject. So he was not well-known personally, but he was widely known on account of his Popular California Flora which ran thru seven or eight editions. This is the first beloved book that has been written on the California flora. Rattan was buried in Mountain View Cemetery, Oakland, at the head of the first little valley. The funeral was held the next day after his death on Friday. See newspaper clipping for date. I have the feeling that this note has already been written up

elsewhere but this term has been a "maelstrom" of things whirled on one another, by reason of taking Setchell's lectures in addition to my own.

— Mrs. Julia Henshaw, author of the Mountain Wild Flowers of North America, lectured in California Hall about 3 wks ago on a Monday evening. I introduced her. She spoke as rather read her written lecture very clearly & effectively. It was on the high mts. & flora of Vancouver Island. Her lantern slides were all colored and very beautiful. The flower pictures were the most wonderful pictures I have ever seen thrown on a screen. They stood out most remarkably. Mrs.

H. is thoroughly English. Lives at Victoria, if I remember correctly. See Who's Who & Am. Women.

— Larrea tridentata. Poisonous? See Miss Waterman in Bot. Gaz. Feb. 6, 1915

— Professor Bose of India, [T.C.] in the college at Calcutta, startled the University by his lecture on plants. He gave them consciousness, etc and used figures of speech which impressed his audience with the feeling that plants had the qualities of a human. His mechanisms were very very clever, and in this respect he has real ability. I did not hear him at the public lecture but went to a dinner given in his honor by the philosophy dept - men who were present in force, or rather I

came in after the dinner was over and the talking began. He talked about the nerves of Mimosa as if they were the histological equivalents of animal nerves. He spoke of the effect of light on the plant: "a ray of light was directed on the plant in a dark chamber, the plant saw the light and shuddered"! — All this happened about March 28 or thereabouts.

— Copeland, E.B., is here once more from the Philippines. He is dean of the College of Agriculture in the University of the Philippines and Professor of Plant Physiology. He says he

prefers, from the standpoint of climate, living in the Philippines to living in the States; also from the standpoint of work on the physiology of plants the Islands are far preferable. He told us a little about the mutiny of the Punjabi troops at Singapore, saying the Sikhs refused to go out with them. Moreover German interned prisoners refused to join the rebels although given the chance. Some of the Germans in the mixup succeeded in escaping to Dutch territory. — May 1, 1915. See p. 152 also.

— It is remarkable how many ladies are painting Californian native flowers. Comes in another

Miss Kate Cole, sandy hair and reddish complexion, about 55 or 60 and very deaf. Rather spry otherwise doubtless. Has painted "300 wild flowers" with "only sufficient botanical characteristics for identification, striving otherwise to retain the soul or personality of the flowers" or words to that effect. (!!). There great ambition of these flower painters is to have a botanist say that their painting are so accurate that the species can unhesitatingly be identified and yet that the work is surpassingly beautiful. Miss Cole insisted on describing with great particularity several vague species of plants of which she wished to know the names. There is no fool

foolishness worse than this. She stayed twenty minutes but it seemed an hour.!! This note is my way of exploding.

– Copeland says (see p. 151) that Prof. W.R. Dudley never once entered Campbell's laboratory during Prof. his entire stay as a professor at Stanford. Copeland was a student there and his statement, at least, illustrates a condition. Copeland further says that when Dudley met Campbell on common ground, as at a meeting or reception, Dudley was in every way courteous to Campbell. This was to be expected, of course, since Dudley was a gentleman of the old school.

– Vaccinium parvifolium. Sent by O.M. Evans, Placerville, from whales

breckt. near Slate Mt. mine, elev. 2500 ft. – Apr. 15, 1915. The spm. was returned to him, being one of a number of fragments. –

– Some time in Feb., I think it was, I was invited by the Asst. Secretary of the Interior to speak at the Conference of National Parks on the day it met in the Fair grounds. On that day I met Geo. Wharton James who told me his version of the Muir Letters which have just been published by Houghton Mifflin. The letters were written to Mrs. Ezra D. Carr, James's wife of an early Supt. Publ. Instruction in Cal. by Muir when Muir as a young man

was haunted by the desire of self-expression to a friend who had sympathy. The letters were very wonderful, but Muir came to a time when he desired to recover them and destroy them. Mrs. Carr, knowing this, would not let him have them but gave them to Geo. Wharton James to be published. Muir came to James for them but would not release them to Muir although he permitted Muir to take them and make copies of them. This is the gist of James' story to me. Last night I heard a different version at a dinner party at Mrs. E. T. Parsons' when were present Mrs. Colby, Walker '87 Bode, myself and 2 other ladies.

This account was unfriendly to James but it was readily admitted that James need not have given up the letters nor even copies of them.

— Bot. Expeds. to Calif. Cf. photo La Perouse from H. A. Greene, in letter file, 1915

— Rattan. V. Pentacaena ramosissima. Clay St. S.F.

Gilia Rattanii, type. 1884

Astragalus Rattani, east of Round Valley, Mendocino Co. 1884

Gilia ambigua Rattan. Oak Hill, south of San Jose, 1886.

I possess just 4 specimens coll. by Rattan, namely the ones noted above. Given me by Miss Georgia Rattan in April, 1915, after her father's death. — I have also been looking over a book of

Wisconsin herbarium spms. mainly coll. by Rattan in 1860. His small coll. contains a great variety of plants from all continents of the earth and representing all subkingdoms except fungi.

— Tofieldia occidentalis. I have gone over all our material very carefully, dissecting under the lens of a dissect. micro. the flowers and involucres. It has been slow tedious work, to make out two species I cannot. The facies of the plants are all alike; they are alike in habit and hue and glandulosity and flowers. The involucres are somewhat variable being so, or but I find both acute and rounded lobes on some plant

in one case, and in any event the depth of lobation does not seem to run parallel with any other characters. There may be two spp., but someone will have to show them us. All the ovules of every ovary showed appendage only at the free end. — June 18, 1915.

— Artemisia Parishii Gray. The facies of this plant is that of A. tridentata and I cannot see from dissection that it is a very distinct species. It has densely cobwebby achenes, but A. tridentata has slightly cobwebby or at least villous achenes. The flowers are about ½ shorter than in tridentata, and the corollas seem different. I do not see any sufficient difs. in involucres as accessary

bracts. It ought to be a var. My comparison is based on Cusick's 2505 E. Ore. (A. tridentata) and Davy's 2933 Rosamond, Antelope Valley (A. Parishii). Moreover A. Parishii has been collected with notable infrequency if it is really a distinct thing and strikes the eye as such in the field.

— Bigelovia Howardi is possibly in Sierra Valley but it rather looks as if, from plants one sheet in U.S. Hb. as if the locality were Reno, for what Lemmon really resided in Sierra Valley, and while he collected there, plants are likely to have been labeled Sierra Valley because being sent from there.

Berkeley

Vernal and Autumnal Flowering on Same Individual, associated with dimorphism

- Ericameria pinifolia.
  Solitary heads: Apr. - June.
  Paniculate heads: Aug. - Nov.
  Vernal heads leafy-collared.
  Autumnal heads more naked.

- Eschscholtzia californica cruces.
  Large erect flowers with huge torus in April. Erect stout stems.

  Small flowers in fall on sprawling or decumbent slender stems.

Sept: 1916.

A great many species have a fall flowering, consisting of scattered clusters, or scattered individuals, but without association of structural differences in the flowers or other parts, as for example:

Castanopsis chrysophylla -
main flowering in June?
late flowering in Sept.

Ceanothus sorediatus
Main flowering in April.
Late flowering in Sept.

- over -

Cont. from prev. page

Gilia

Flowering a head close to the ground and later putting out a circle of heads raised on branches proliferous from beneath first-head.

– Crepis nana Rich.
– Ranunculus eschscholtzii.

Scientific Honesty

cf. F.B. 43:48-49.

— Poison Oak. McLean is working on toxicity under Robertson says Grinnell. List from Biol. Survey, Wash. shows that a very large number of birds eat poison oak berries which accounts for the wide distribution

— Calochortus palmeri Wats. A cotype, Palmer 527, May 1876, is in hb. U.C. The specimens are poor, faded, aged and the fls. mere or less eaten. The gland has no bordering membrane. A few hairs of the gland which I examined were linear in outline but apparently 4-sided and narrowly 4-winged. The wings show quite distinctly on the high power of the compound microscope. The wings are even

and not of unequal breadth or wavy. Petals seem very rounded. Compare the gland hairs of the following:

— Calochortus invenustus. The gland hairs are shaped a bit like a rough club, dilated above the short handle and then tapering to the apex, the whole "stocky" and not slender. Over this upper part are knobby excrescences very thickly set, which seem a good deal like small segments of a circle set on main body. They may be in shape like segments of a globe but they seem a good deal like circle segments. At any rate very different in character from C. palmeri. The hairs of the hairs examined were from a plant collected at Tehachapi 24 June 1889 by E. L. Greene. This

plant is in Hb. U.C. The label is in the hand of Tidestrom who wrote labels for Greene under Greene's direction. The specimen is the type or a cotype. The petals seem blunt.

— Balsamorhiza excavata Greene. Type Shockley 427, Bishop Creek, Inyo Co., Cal. The spm. in Hb. U.C. is labeled by hand of K.B. "Bishop Creek, Esmeralda Co., Nev." which is a clear mistake, doubtless induced by "Esmeralda Co., Nevada" being Shockley's home collecting ground. The gland has a membrane or thin border, same as plants from the Dakotas, etc.

— Aster carnosus Gray. This made a monotypic genus by Greene (Leucosyris) which he afterwards

added Aster spinosus. Curiously enough Gray himself put it in another genus, by mistake, afterwards (this Bigelovia intricata). A thing which drifts around in that way from genus to genus had perhaps better be in a genus of its own, especially as Aster is overloaded. Still it has no technical character of separation that I can see as yet. The base of the denticulate bristles are covered by a short pseudo-pappus derived from the hairs of the achene. This simulates a true short outer pappus. I have compared it with Aster exilis: the heads are much alike, but the corolla of the latter is contracted below throat into a narrow tube; in A. carnosus it very gradually tapers downwards; the involucres and heads resemble each other. This comparison of course from the standpoint of generic separation. A. carnosus

has no rays but that is not important as a generic character.

– Calochortus elegans Purush. Heller's 3172, Lake Waha, Nez Perces Co., Idaho. The gland proper varies from slightly curved to horse-shoe-shaped:

Diagrammatic scheme of glands.

B. = very like the plant of Pt. Reyes (Inverness). Scale deeply fringed, almost to base. A. is similar to other North Coast Range forms. Also as deeply fringed. The hairs

of the fringe in the Idaho plant are densely papillate as in the North Coast Range material and there is a row of similar hairs above the scale (= crest of my Fl. Cal) just as in Cal. spms. and their hairs are likewise papillate; above the papillate hairs are hairs like the ordinary petal hairs but in close proximity to the gland hairs.

– Sonne, C. F. Was collecting in Nevada Co. as early as June, 1886. See label of a plant of Allium lemmoni coll. by him.

– Bidwell, Annie Ellicott Kennedy = Mrs. John Bidwell. See biography in Women's Who Who 1914-15, p. 99. Allium bidwellae named for her by Asa Gray.

Berkeley

J. M. Bigelow.

– The origin of the specimens published as types of new species and collected by Dr. J. M. Bigelow of the Pac. R. Survey v. 4. often trouble. "Duffields Ranch" is a locality which is unknown today. Bigelow states it as in the Sierra Nevada. In order to approximate the station I hit upon the device of making up a calendar (from Pac. R. Survey Rep. vol. 4) of Bigelow's movements. I soon found that the dates were not always to be depended upon but if checked three times or more, were accepted as correct; that is if date and and locality corresponded 3 times or more I put it down in the list. Some of the dates are evidently wrong. See also p. 176 ahead:

See also vol. 35, p. 79–113.

Apr. 4. Oaklands, mts. near.
Apr. 5. . Oakland
Apr. 12 Redwoods (Whipple models) by the Sequoia
When he collected sempervirens he labels it as "Redwoods of Contra Costa Co" which would indicate that his "Redwoods" without specifications is Oakland Hills. No! see p. 176.

Apr. 17. Pt. Reyes.
Apr. 18 Pt. Reyes.
Apr. 19. Bolinas Bay
Apr. 20 . . Corte Madera

Apr. 25. Napa valley
Apr. 27 Napa Valley
Apr 30. Marle West Creek.
May 1. Santa Rosa creek.
May 7-8. Stockton to Knights Ferry.
May 9. Sonora
May 10. Duffields Ranch
May 11 " "
May 12 " "

May 14. Carsons Stanislaus River

Berkeley

Cont.

May 14. Robinsons Ferry, Stanislaus R.
May 14. Murphy's
May 15. Washington Mammoth Grove,
May 16. Murphy's + Calaveras Grove.
May 17. Mokelumne Hill.
May 18. Ione Valley
May 19 Grass Valley
May 20 " "
May 21. Downieville
May 21. Nevada City

May 23. Middle Yuba

May 25, Marysville
May 25 Marysville Buttes

The above list could be amplified somewhat, especially the first part of it.

Nov. 1916.

+ distribution

S-Species. — See p. 183.

— Distribution of Species on Mts. on western border of Mohave and Colorado Deserts. Beginning in southern Sierra Nevada, the distribution from Kern Co. makes a sort of S. There "S-species" are as follows:-

Calochortus invenustus Greene.
Nama parryi
Fritillaria pinetorum Davidson
Hulsea vestita Gray
Scirpus pauciflorus Lightf.
Gentiana serrata var. holopetala Gray.
Peucedanum Parishii
Pentstemon Bridgesii Gray, from Mariposa Co. to San Diego Co.

Local Species "Klamath" Region.

- See Trees Cal. annotated copy.
  Lewisia Cotyledon.
  Brodiaea crocea Wats.
  Draba howellii Wats.
  Trillium rivulare

Mt. Shasta.

Absent.
- Sedum rhodiola.

Local Species common to "Klamath Region" of Diller and Whitney region.

- Dicentra pauciflora. Pinus Balfouriana.
- Macronema greenei. Hazardia whitneyi

Yellow-flowered Species in N. Sierra Foothills.

Significance in relation to a ship in that region, and to color contrast of other species of same genus in Coast Range and elsewhere:

Calochortus benthami Wats.
Erythronium hartwegii Wats.

Desert Species Running into North Coast Ranges

- Lotus
- Phacelia distans

Cont. from p. 172:

— Bigelow, Pac. R. Survey, vol. 4. His "Redwoods" must mean Marin Co., I take it, and not Redwood Peak, Oakland. I quote a series of citations. The var. chloropetalum of the first he would not have found in O. hills.

Apr. 12. Trillium sessile var. chloropetalum "Redwoods".
" " " ovatum. "Redwoods".
" " Whipplea modesta. "Redwoods".

When he uses Redwoods (referring to the Redwood Peak group) he specifically says "Costa Co." or "near Oakland" etc.

- Clintonia andrewsiana, "Redwood ravines of Costa Co."

Apr. 4 - Smilacina racemosa. mts. near Oakland.
- Sequoia sempervirens, " " "

Further: on p. 24, he says: "near Tomales Bay in a deep ravine called "the Redwoods". — " This would appear to be "Tokeloma Creek, Tomales Bay" which he elsewhere quotes. It could not be anything else very well.

Species in Extreme Northern Sierras and Coast Ranges.

joining across Shasta to form an ⌒ or ox-bow.

- Brodiaea multiflora.
- Brodiaea volubilis
- ? Calochortus undus.
- Calochortus caerulens
- Narthecium californicum
- Brodiaea bridgesii.
- Osmorrhiza occidentalis cf. O. bracypoda p. 182.
- Styrax californica (in part answers)
- Ligusticum grayi

Species in Central Sierra Nevada and in Santa Lucia Mts.

- Trillium angustipetalum (Torr.).
- Allium Sanbornii Wood
- Calochortus umbellus (Greene).

Species in Sierra Foothills & Napa Range

- Sedum pumilum. Arctostaphylos manzanita. Odontostomum hartwegi

Species in San Gabriel, San Bernardino and San Jacinto Mts.

- Draba corrugata Wats.
- Arabis parishii

Species of the Whitney Plateau.

- Draba incana Greene.
- Abronia alpina Brandegee.
- Ceanothus pinetorum Lov.

Lake County Rarities

Delphinium uliginosum Greene.
Senecio Greenei Frey.
Brodiaea rosea Greene.

Species extending to Alaska or Siberia.

- Mianthemum bifolium var. kamtschaticum
- Lysichiton kamtschatcensis.
- Gentiana

Species common to central Sierra Nevada foothills and San Diego reg.

- Ceanothus tomentosus
- Jepsonia

"Wishbone" Species

Coastal S. Cal., extending n. into Sierras and Inner & Coast Ranges.

- Allium peninsulare Lemmon.
- Osmorrhiza brachypoda Torr.
- Papaver heteraphyllum Greene.

Crescent Species

Western borders of the Mohave Desert: — See also p. 173.

- Frasera neglecta Hall.

Replacement Species

Species beginning where allied sp. ends.

- Angelica lineariloba, southern Sierras
- " breweri Northern "
- " tomentosa Coast Ranges
- " hendersonii Sea-bluffs.

Dimorphic Branches

- Nama Lobbii. Autumnal branches with small linear-revolute leaves about 3/4 to 1 inch long - and green. These apparently go through the winter, indeed there can be no doubt of it. From their terminal buds a shoot arises next season which bears larger spatulate white-woolly leaves and flowers in the upper axils. The shoots of autumn are crowded with leaves; the summer shoots lax with leaves. - [1917].

Stream-bed Species

- Delphinium uliginosum Greene.
- Mimetanthe pilosa Greene.

Desert Wash Species.

— Arctostaphylos glandulosa Easter. Ovary densely white-hairy, or very slightly hairy and at first glance as if glabrous; calyx ciliate. Infl. somewhat drooping. — Tamalpais. Geo. D. Allin

— A. nummularia Gray. Calyx quite glabrous. Ovary rather densely white-hairy but not glandulose. Style crimson. Pedicels quite glabrous, crimson. Inflorescence not erect, horizontally spreading or drooping — Tamalpais, Geo. D. Allin. Mar. 8. 1917

— Greene, Edw. L. was appointed "Lecturer in Botany" University of California, 1882-1885, as shown by minutes of the Board of Regents. His name however does not appear in any Register or announcement of Courses until the year 1885-1886 when he was "Instructor."

— Arctostaphylos virgata, head of main woods towards Mt. Tamalpais. Geo. D. Allin, Mar. 8, 1917. Flower-clusters rather close, few-flowered comparatively. "Peduncle" very leafy just below the inflorescence. This bunch of leaves appears thus to stand above the recurved or down-curved inflorescence. The linear bracts of the base of the inflorescence are fairly conspicuous. Herbage very yellow-green. Stems, petioles, pedicels glandular-hairy, the stems with short-hirsute spreading hairs, the infl. with dense gland-tipped hairs. Calyx = i.e. sepals ciliate with gland-tipped hairs. Leaves very acute. Ovary densely glandular-tipped hairy.

— Ranunculus californicus Benth. Counts of petals in material from Berkeley, March 8, 17

10 — 𝍸 𝍸 𝍸

– Muilla coronata Greene.
Flowers 3 or 4 (or to 7). Perianth segs. with broad white-scarious margins, especially the inner. Outer perianth segments with a median band of very narrow scarious-winged nerves. Fls. essentially same size as those of M. maritima; habit the same but plants very small, i.e. low. The label bears the data (in Parry's hand): "Muilla coronata Greene. Lancaster, Mojave Coll. C.C. Parry. March, 1888"

– Prunus emarginata and dentissa, "on hill summit ½ mile immediately north of Morage Ridge proper; the North end of latter is a large tree" – John McGlee, Bot. 104. Nov. '16

– Kellogg's publications in the Pacific a "journal of religion, education and general intelligence" must stand as duly published in my opinion. Macrosecapa volubilis Kell, Pacific, 3: 132 (1854) is technically characterized in full. The question is of course as to the medium used. It is a weekly but is not really of newspaper character. It is of magazine character. Unlike a newspaper its pages are not paged afresh each week, but in sequence thru the whole volume, since it was meant to be bound and referred to as a magazine.
– Erythronium californicum. It is now my opinion that the E. col. + E. citrinum of the following pages (192-193) are cuspecific, but the Spms. cited as citrinum are doubtless not true E. citrinum. True E. citrinum has, apparently, an undivided style and stigma as in material from Tuolumne Co. (Grant). See also

– Erythronium. All the Californian species save E. purpurascens have 2 median pair of sacs on base of inner per. segs with, usually, 2 lateral or smaller pair connecting with the auricles. E. citrinum has sacs, not "scales" as described by Watson, and the sacs pressed quite flat in drying look like scales in dried spms. I cannot distinguish satisfactorily E. Californicum Purdy from E. citrinum. Purdy's distinction as to styles does not hold:—

E. citrinum { Sterly, Josephine Co., Baker, stigma barely 3-lobed. Marble Mt., Jepson 2826, style 3-cleft at apex.

E. californicum { Style 3-cleft at apex or merely 3-lobed in material from Mt. St. Helena and Sonoma Co., etc.

E. californicum has roots all along side of corm in my Mt. St. Helena spms. but only at base in Marble Mt. spms.; but this does not hold true always as between the two species.

The cotype of E. Howellii (Waldo, Cph. 25, 1887) plainly has saccate bases to the per. segs. I do not believe it distinct, at least on that basis. Howells spms. distrib. from this 1892 collecting at same place, also have sacs. to the per. segs.

Re. E. californicum; spms. from Cloverdale, Setchell, the appendages certainly seem like narrow sinuous scales, & not saccate at all.* This appearance may be due to pressing, or to lack of development, as the appendages on the base of one per. segment seem almost obsolete.

E. citrinum has style clavate at apex, but E. californicum sometimes shows a little similar clavation.

* I found later that "horse-shoe shaped scales" if properly softened and manipulated could be shifted so as to lose their character as "scales", showing that they were distentions which became "scales" on flattening.

– Dirca occidentalis. Bot. 104 material, Oakland Hills, 1916.
Leaves 1 1/4 to 2 1/4 in. long.

– Osmaronia cerasiformis
Leaves 1 to 2 in. long.
" 2 to 4 in. long (probably taken in ~~shade~~ shade), broadly oblong, merely subacute
Bot. 104 material, Oakland hills, 1916.

– Rattan, Volney, trips in North Coast Ranges: (See also 28:126)
June, 1884. – Stony Creek, Colusa Co. collected Euphorbia rattani
" " Russian River, above Ukiah. coll. Phacelia Rattani
" " Trail above Fouts' Springs. coll. Mimulus Rattani
" " West slope Black Butte, Coll. Collinsia rattani.
" " summit, trail to Fouts' Springs from Stony Valley, coll. Gilia Rattani.
" " East of Round Valley, Mendocino Co. (Coll. Astragalus Rattani. not type ?)

– 1882. Mad River, Humboldt Co., coll. Astragalus rattani.

– 1884. Stony Creek, Colusa Co., in June. Coll. Antirrhinum subcordatum Egray, Proc. Am. Acad. 20:306. E. of Round Valley (coll. Astrag. rattani).

Rattan, Volney,
– 1886. Mt. Diablo, 14 June, 1886, coll. Campanula exigua Rattan.

May 15. Oak Hill, 4 mi. s. San Jose, coll. Gilia ambigua Rattan

– C. W. Childs, Principal of San Jose Normal, the friend of Volney Rattan, was Principal 1889–1885.

– As is evident from a printed label, Rattan collected for the California Geological Survey, 1866, and doubtless later. cf. Streptanthus diversifolius in hb.

- Redwood. Lumbered in Cal. in early days. See Snowdon's Hist. of Cal. for reference. See letter or bill by Amos S. Tompkins, Jan. 15, 1831, in Vallejo Docs.
- Hilgard, E. W. Memorial Addresses. Univ. Cal. Chron. 18: 159.
- Chrysothamnus bolanderi occurs in Washoe Co. Nev. See U.C. Lib.
- J. P. Moore, Rev. cf. Wood in Proc. Acad. Phil. 20: 168
- Stivers, Charles H. On list members Cal. Acad Sci. (Proc. v.2: p. vii).
- Quercus lobata. Comparative value acorns of this and other species as Indian bread material
- Dr. J. W. Hudson in litt. Nov. 1916.
- Brevoort, J. C. After whom was named Brevoortia. "Curator" Lyc. Nat. Hist. N.Y. 1848-9.

- David Douglas. Unearthed in the Bancroft Library today a letter by Douglas to Figueroa giving a set of astronomical observations made by Douglas himself at various points in California — a list of which is given. It is the first evidence obtained that Douglas was actually at certain points. It is in Vallejo Docs. vol. 31. See note in Hist. Cal. of Bancroft. vol.

Get at ref. thru Bancroft's pioneer list.

- Roezl, B. Was in Mexico, 1857-8. Published List of Seeds of Mexican Pines. See Sargent, Silva, 11: 5. See p. 199 seq.

— Quercus lobata. Miss Alma Bates says that she and other school-children at Oakdale ate the nuts of Valley Oak as if they were chestnuts, that the nuts of different trees varied in edibility, and that the nuts were tasted better in some years than in others.

— Lilium Washingtonianum. Miss Bates says that a fine-slope of an acre 2 mi. west of Jamesville she found filled with flowering stalks of this species in such a way as to be compared with a poppy field for abundance. Fls. pure white.

— Roezl, B. Collected in Cal. 1869-72. Sent Lilium washingtonianum, Camassia leichtlinii, Calochortus maweanus, etc to Max Leichtlin, horticulturist at Baden, Germany. Cf. Elwes, Monog. Lilium, plate sub. L. Washingtonianum and maritimum. He was on the "Elk and American rivers" Sierra Nevada. He also

botanized in the Coast Range. And in Utah. See Elwes and plate of L. parkmanii.*

— Sonne, C. F., botanized at Santa Cruz Big Trees, in 1887.**

— Styrax californica. Coffman, Forest-Supervisor, reports it in California Forest west of Willows. Also Ceanothus parrifolius Fred.

— Parry, Dr. C. C. — Sketch of his various expl. up to 1876. — See Proc. Davenport Acad. Sci. 2:280. In same vol. may be found an ode written by Parry. See p. 178 (Laying the Corner Stone).

** also at Camp Taylor, Marin Co., in Apr. 1888. Napa Junct., Apr. 25, 1888.

* Roezl also botanized in Mexico, in 1866 about. cf. Rep. Mo. Bot. Gard. 13:104. There is an Agave Roezliana Baker, Gard. Chron. 1877, 1:529, fig. 79. He was at San Diego in 1869 (cf. Rep. Mo Bot. Gard. 13:41, 113. See p. 197 supra.

Camera Record.

No. 2. Cupressus macnabiana 34 ft. h. Two shoots from the base one covering the other, 10 & 14 inches diam. respectively.

No. 3. Ditto. 40 ft. h. Very open & slender. Phoradendron in top. 9 in diam. trunk at 1 ft. from ground.

No. 4. Ditto, 45 ft. h., trunk 12 in. diam. at 1 ft. above ground

No. 5. Ditto. Trunk detail (trunk 1 ft. diam. - 6. Ditto. No. 5, No. 7. Old tree, 40 ft. h. See measurements on p. 45. No. 8. Ditto, grove, young trees, 20 - 42 ft. h.

— W. F. White, For. Ranger. McCloud.
— R. H. Hammatt. For. Sup. Sisson.
— Fred Seaborn, For. Rang. Burney.

— Cup. bakeri. "along road thru lava bed extreme s. E. cor. Siskiyou Co. below. Little Hot Springs Val. & Hills Farm on Fall River - Sisson stage road" — M. S. Baker.

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— Dorfler, Bauch garce. Wien. Mk. 1. rach, Lief I, No. 4 (Engler), No. 7 (Schröter).

— Antioch Sandhills 62.
— Bigelow, J.M. . . . . 170.
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